CUSHMAN®
By Jacobsen

4241724-PT-Rev A

Parts & Maintenance Manual
Manual de Peças & Manutençao

Cushman® Turf Truckster®
With Four Post ROPS
Com estrutura de protecção contra capotamento de 4 colunas

84063 – Kubota® D1105-E3B Diesel Engine, MT
84064 – Kubota® D1105-E3B Diesel Engine, MT, EC
84067 – Suzuki® K6 Gas Engine, MT
84068 – Suzuki® K6 Gas Engine, AT
84069 – Suzuki® K6 Gas Engine, RV and Utility

84063 – Motor Diesel Kubota® D1105-E3B, MT
84064 – Motor Diesel Kubota® D1105-E3B, MT, EC
84067 – Motor a Gasolina Suzuki® K6, MT
84068 – Motor a Gasolina Suzuki® K6, AT
84069 – Motor a Gasolina Suzuki® K6, RV e Utility

⚠ WARNING

If incorrectly used, this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine

⚠ ATENÇÃO

Esta máquina pode causar ferimentos graves se for utilizada incorrectamente. A pessoa responsável pela sua utilização e manutenção deve ser previamente instruída para a sua utilização correcta, avisada sobre os perigos que ela pode causar e deve ler todo o manual antes de tentar preparar, conduzir, afinar ou reparar a máquina.

JACOBSEN®
A Textron Company

When Performance Matters.™

GB United Kingdom
PT Portugal

FOREWORD

This manual contains adjustment, maintenance, troubleshooting instructions and parts list for your new Jacobsen® machine. This manual should be stored with the equipment for reference during operation.

Before you operate your machine, you and each operator you employ should read the manual carefully in its entirety. By following the safety, operating and maintenance instructions you will prolong the life of your equipment and maintain its maximum efficiency.

If additional information is needed contact your Jacobsen Dealer.

The serial plate is located on the frame rail under the steering wheel. Jacobsen recommends you record these numbers below for easy reference.

Suggested Stocking Guide

To Keep your equipment fully operational and productive, Jacobsen suggests you maintain a stock of the more commonly used maintenance items. We have also included part numbers for additional support materials and training aids.

To order any of the following material:

1. Write your full name and complete address on your order form.
2. Explain where and how to make shipment:
   - ❑ UPS
   - ❑ Regular Mail
   - ❑ Overnight
   - ❑ 2nd Day
3. Order by the quantity desired, the part number, and the description of the part.
4. Send or bring the order to your authorized Jacobsen Dealer.

Service Parts

Qty.	Part No.	Description	Qty.	Part No.	Description
	4113986	Diesel Engine Oil Filter		2701908	Gas Engine Oil Filter
	550489	Diesel Engine Fuel Filter Element		2701898	Gas Engine Fuel Filter
	4175560	Diesel Alternator-Power Steering Belt		4139265	Gas Alternator-Power Steering Belt
	4117092	Diesel Hydraulic Pump Belt		4235370	Gas Governor-Hydraulic Pump Belt
	5000919	Diesel Engine Air Filter Element		840352	Gas Engine Air Filter Element
				885249	Hydraulic FIlter Element

Service Support Material

Qty.	Part No.	Description
	4241725	Safety & Operation Manual
	4241724	Parts & Maintenance
	4160162	Kubota D1105 Engine Parts Manual
	4241728	Suzuki K6A Engine Parts Manual

Qty.	Part No.	Description
	4171642	MT Truck Service Manual
	4171675	AT Truck Service Manual
	4171985	Suzuki K6A Service Manual
	4239442	Accessory Manual

These are the original instructions verified by Jacobsen A Textron Company

© Copyright 2011, Jacobsen, A Textron Company. "All rights reserved, including the right to reproduce this material or portions thereof in any form."

Proposition 65 Warning

This product contains or emits chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

Table of Contents

1 Safety
1.1 Operating Safety 4
1.2 Important Safety Notes 5
2 Vehicle Identification Numbers
2.1 Vehicle Identification Number 6
2.2 Engine Identification Numbers 6
3 Specifications
3.1 Product Identification 7
3.2 Diesel Engine 7
3.3 Gas Engine 7
3.4 vehicle 8
3.5 Gear Ratios 8
3.6 Weights and Dimensions 8
3.7 Accessories & Support Literature 9
3.8 Declaration of Conformity 10
4 Adjustments
4.1 General 12
4.2 Engine Access 12
4.3 Front Cowl Access 13
4.4 Access Panels 13
4.5 Diesel Alternator Belt 14
4.6 Diesel Hydraulic Pump Belt 14
4.7 Gas Power Steering - Alternator Belt 14
4.8 Gas Hydraulic Pump Belt 15
4.9 Parking Brake Cable 15
4.10 Torque Specification 16
5 Maintenance
5.1 General 17
5.2 Engine 17
5.3 Engine Oil 18
5.4 Power Steering Reservoir 19
5.5 Muffler and Exhaust 19
5.6 Engine Overheat Procedure 19
5.7 Cooling System 20
5.8 Air Filter 21
5.9 Jump Starting 21
5.10 Battery 22
5.11 Charging Battery 22
5.12 Hydraulic Hoses 23
5.13 Hydraulic Reservoir and Filter 23
5.14 Fuel 24
5.15 Fuel System 24
5.16 Tire Pressure 25
5.17 Tire Removal and Installation 25
5.18 Raising the vehicle 26
5.19 Towing the Vehicle 27
5.20 Governor Oil Level 27
5.21 Hydraulic Brakes 28
5.22 Differential Fluid 29
5.23 Diesel Engine Manual Transmission 29
5.24 Gas Engine Manual Transmission 30
5.25 Gas Engine Automatic Transmission 30
5.26 Electrical System 31
5.27 Dash Panel 31
5.28 Headlight Replacement 32
5.29 Tail Light Replacement 32
5.30 EFI Diagnostic Check 33
5.31 Care and Cleaning 33
5.32 Storage 34
6 Troubleshooting
6.1 General 35
7 Maintenance & Lubrication Charts
7.1 General 36
7.2 Lubrication Chart 36
7.3 Maintenance Charts 37
7.4 Common Replacement Parts 38
7.5 Kubota Diesel Engine Service Parts 38
8 Notes
9 Parts Catalog
9.1 How To Use The Parts Catalog 40
9.2 To Order Parts 40
9.3 Table Of Contents 41

1 SAFETY

1.1 OPERATING SAFETY

WARNING

EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.

Familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Safety & Operation Manual, Engine Manual, accessories, and attachments). If the operator cannot read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands, and feet. Operate the machine only in daylight or in good artificial light.
6. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Jacobsen.
7. Stay alert for holes in the terrain and other hidden hazards.
8. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.) Enter a new area cautiously. Stay alert for hidden hazards.
9. Never allow anyone near the machine while in operation. The owner/operator can prevent, and is responsible for, injuries inflicted to themselves, to bystanders, and damage to property.
10. Do not carry passengers. Keep bystanders and pets a safe distance away.
11. Never operate equipment that is not in perfect working order or is without decals, guards, shields, or other protective devices securely fastened in place.
12. Never disconnect or bypass any switch.
13. Do not change the engine governor setting or overspeed the engine.
14. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation or in an enclosed area.
15. Fuel is highly flammable; handle with care.
16. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
17. Place transmission in Neutral, depress clutch and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat never while standing beside the unit.
18. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads. Watch out for traffic when crossing or operating on or near roads.
19. Local regulations may restrict the age of the operator.
20. Operate the machine up and down the face of the slopes (vertically) not across the face (horizontally).
21. To prevent tipping or loss of control do not start or stop suddenly on slopes. Reduce speed when making sharp turns. Use caution when changing directions.
22. Always use the seat belt when operating vehicles equipped with a Roll Over Protective Structure (ROPS).

    Never use a seat belt when operating vehicle without a ROPS.

    Accessory ROPS will continue to be offered for all equipment currently covered. This allows for the outfitting of any machines without previous ROPS installations or replacement of damaged structures.
23. Keep legs, arms, and body inside the seating compartment while the vehicle is in motion.
24. Always shift transmission to 1st Gear (Manual Transmission) or Park (Automatic Transmission), engage parking brake, and stop engine before leaving the vehicle.
25. Charge batteries in an open well ventilated area away from spark and flames. Unplug charger before connecting and disconnecting charger from battery. Wear protective clothing and use insulated tools.
26. Disconnect the battery cables before performing any welding operations on this vehicle.

1.2 IMPORTANT SAFETY NOTES

This safety alert symbol is used to alert you to potential hazards.

DANGER - Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury, and property damage. It may also be used to alert against unsafe practices.

NOTICE - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage. It may also be used to alert against unsafe practices.

For pictorial clarity some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place.

WARNING

The Interlock System on this vehicle prevents the vehicle from starting unless the clutch pedal is depressed (Manual Transmission) or gear selector is in Park (P) or Neutral (N) (Automatic Transmission).

NEVER operate vehicle unless the Interlock System is working.

WARNING

1. Before leaving the operator's position for any reason:
   a. Remove foot from accelerator pedal.
   b. Slow vehicle using service brake.
   c. Depress clutch and shift transmission to 1st Gear (Manual Transmission, or Park (Automatic Trnasmission).
   d. Engage parking brake.
   e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers unless a seat is provided for them.

By following all instructions in this manual you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed contact your Authorized Jacobsen Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service.

2 VEHICLE IDENTIFICATION NUMBERS

2.1 VEHICLE IDENTIFICATION NUMBER

The Vehicle Identification Number (VIN), consisting of the model number, date code, and serial number, is printed on the Nameplate/Identification Decal attached to the cross member under the dash.

The serial number is also stamped on the cross member. It is located to the left of the Nameplate/Identification Decal.

NOTE: *Reference to the Front, Rear, Left, and Right sides of the vehicle are always determined by the operator's seated position.*

Record the Vehicle Identification information below for easy reference.

Model Number: _____

Date Code: _____

Serial Number: _____

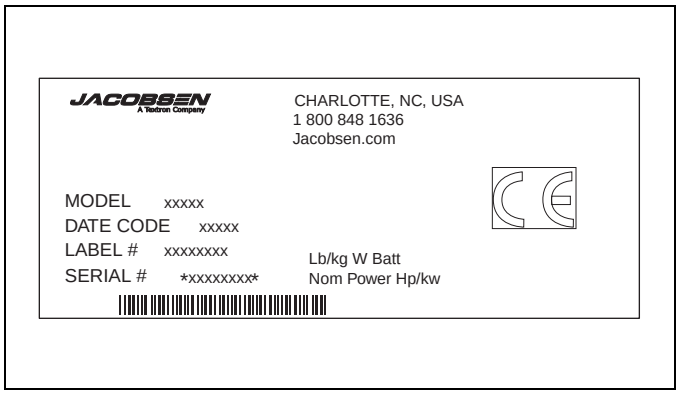


Figure 2A

Always provide the Vehicle Identification Number of the unit when ordering replacement parts or requesting service information. Vehicle Identification Numbers must appear on all correspondence concerning this vehicle.

2.2 ENGINE IDENTIFICATION NUMBERS

The Truckster is equipped with either a Kubota® three cylinder, diesel powered, liquid cooled, four cycle engine or a Suzuki® three cylinder gas powered, liquid cooled, four cycle engine.

The Engine Serial Number for the Kubota engine is on a plate located on the valve cover.

The Engine Serial Number for the Suzuki engine is stamped onto the upper engine block on the right side of the engine under the engine mount and may be partially hidden by the electrical harness. The serial number is also hand printed on the fuel rail.

Record the Engine Serial Number below for easy reference.

Engine Serial Number: _____

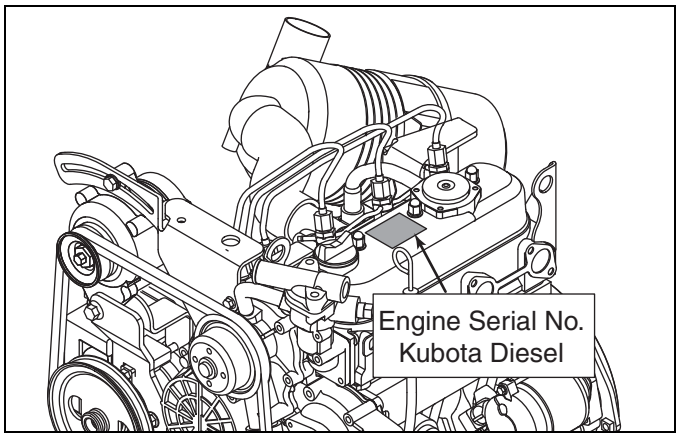
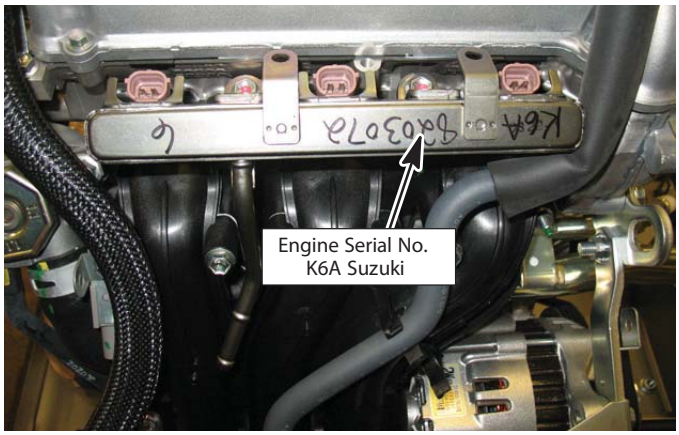


Figure 2B



3.1 PRODUCT IDENTIFICATION

84063 ..... Turf Truckster, liquid cooled diesel engine, 4 speed manual transmission, 11.16:1 2 speed differential, mechanical PTO, and four post ROPS.

84064 ..... Turf Truckster liquid cooled diesel engine, 4 speed manual transmission, 11.16:1 2 speed differential, mechanical PTO, and four post ROPS. EC approved.

84067 ..... Turf Truckster liquid cooled gas engine, 5 speed manual transmission, 14.21:1 2 speed differential, and four post ROPS.

84068 ..... Turf Truckster liquid cooled gas engine, 3 speed automatic transmission, 14.21:1 2 speed differential, and four post ROPS.

84069 ..... Turf Truckster liquid cooled gas engine, 5 speed manual transmission, 11.16:1 2 speed differential, and four post ROPS.

Product	EEC Sound Power	Operator Ear	Vibration M/S^2	
			Arms	Body
84064	103 dB(A)	84 dB(A)	2.14	.096

3.2 DIESEL ENGINE

Make ..... Kubota
Model D1105-E3B
Horsepower ..... 26 hp (19.4 kW) @3000 rpm
Note: *Actual sustained horsepower will likely be lower than listed in specifications due to operating limitations and environmental factors*

Displacement ..... 68.5 cu. in. (1123 cc)
Torque ..... 52.7 ft. lbs. (71.5 Nm) @ 2200 rpm
Fuel:
- Type ..... No. 2 Low or Ultra Low Sulfur Diesel
- Rating ..... Cetane Rating-45
- Capacity ..... 6.55 U.S. Gal. (24.5 liters)

Governor ..... All Speed Mechanical
- Low Idle ..... 1300 RPM
- High Idle ..... 3180 RPM

Lubrication:
- Capacity ..... 5.4 quarts (5.1 liters)
- Below 32° F (0° C) . SAE 10W or 10W-30/10W-40
- 32-77° F (0-25° C)... SAE 20W or 10W-30/10W-40
- Above 77° F (25 ° C) SAE 30W or 10W-30/10W-40
- API Classification ... CD or CE

Air Filter ..... Dry type with evacuator valve
Alternator ..... 60 amp
Cooling System ..... Liquid Cooled
- Capacity ..... 5.1 qt. (4.8 l) 50/50 water ethylene glycol mix

3.3 GAS ENGINE

Make ..... Suzuki
Model K6
Horsepower ..... 34 hp (25.35 kW) @ 5000 rpm
Displacement ..... 40.2 cu. in. (658 cc)
Torque ..... 38.3 ft. lbs. (51.9 Nm) @3200 rpm
Fuel:
- Type ..... Unleaded Gasoline
- Rating ..... Min. Octane rating 87
- Capacity ..... 6.55 U.S. Gal. (24.5 liters)

NOTICE

The use of any fuel containing greater than 10% ethanol may harm the engine's emission control system and therefore invalidate the emission-related warranty through the improper action of the operator.

Governor ..... External Mechanical
- Low Idle ..... 950 RPM
- High Idle ..... 4450 RPM

Lubrication:
- Capacity ..... 3.6 quarts (3.4 liters)
- Below 32° F (0° C) . SAE 10W30
- 32-86° F (0-30° C)... SAE 10W30
- Above 86° F (30 ° C) SAE 10W30W or 10W40
- API Classification ... SJ

Air Filter ..... Dry type with evacuator valve
Alternator ..... 60 amp
Cooling System ..... Liquid Cooled
- Capacity ..... 3.3 qt. (3.0 l) 50/50 water ethylene glycol mix

Spark Plugs:
- NGK 3932 ..... DCPR7E Gap
- Denso XU22EPR-U
- Gap ..... 0.032 - 0.035 in. (0.8 - 1.27 mm)

3 SPECIFICATIONS

3.4 VEHICLE

Tires:
- Front ..... 20 x 10 - 10 Multi Rib
- Rear ..... 24 x 13 -12 Titan Ultra Trac

Tire Pressure:
- Front ..... 20 psi (1.38 BAR)
- Rear ..... 15 - 18 psi (1 - 1.2 BAR)

Battery:
- Type ..... 12 Volt Lead/Acid
- Group 24

Service Brake ..... 4 Wheel hydraulic drum brakes
- Brake Fluid ..... DOT 3

Parking Brake ..... Integral to rear drum, hand lever actuated

Steering .....Front wheel power steering

Hitch Capacity:
- Max. trailer GVWR.... 1500 lb. (680 kg)
- Tounge Weight..... 200 lb. (90.7 kg)

Vehicle Rated Capacity .. 2850 lb. (1293 kg)

NOTE: *When calculating load weight, include 118 lb. (53.5 kg) for the standard four post ROPS. Do not exceed Vehicle Rated Capacity.*

3.5 GEAR RATIOS

84067 Gear Ratios:
- 5th Gear 1.000:1
- 4th Gear 1.264:1
- 3rd Gear 1.908:1
- 2nd Gear 3.017:1
- 1st Gear 5.106:1
- Reverse 5.151:1
- Hypoid Differential... 14.21:1 with 3.2:1 Reduction

84068 Gear Ratios:
- 3rd Gear 1.000:1
- 2nd Gear 1.536:1
- 1st Gear 2.727:1
- Reverse 2.222:1
- Hypoid Differential... 14.21:1 with 3.2:1 Reduction

84069 Gear Ratios:
- 5th Gear 1.000:1
- 4th Gear 1.264:1
- 3rd Gear 1.908:1
- 2nd Gear 3.017:1
- 1st Gear 5.106:1
- Reverse 5.151:1
- Hypoid Differential ...11.16:1 with 3.2:1 Reduction

84063 and 84064 Gear Ratios:
- 4th Gear 1.000:1
- 3rd Gear 1.423:1
- 2nd Gear 1.947:1
- 1st Gear 3.652:1
- Reverse 3.463:1
- Hypoid Differential ...11.16:1 with 3.2:1 Reduction

3.6 WEIGHTS AND DIMENSIONS

Dimensions:	**Inches**	**(mm)**
Length	114	(2897)
Height	74.5	(1892)
Wheel Base	58.2	(1478)
Turning Radius (Outside)	242	(6146)

Weights:	**Lbs.**	**(kg)**
84063	1838	(834)
84064	1849	(838)
84067	1690	(766)
84068	1503	(682)
84069	1690	(766)

3.7 ACCESSORIES & SUPPORT LITERATURE

Contact your area Jacobsen Dealer for a complete listing of accessories and attachments.

⚠ CAUTION

Use of other than Jacobsen authorized parts, excluding emission related components defined in the Emission Warranty, and accessories may cause personal injury or damage to the equipment.

Flatbeds and Boxes

47 in. Quick Disconnect Flatbed 889983
60 in. Quick Disconnect Flatbed 894769
47 in. Box Assembly (Requires 889983).....890010
60 in. Box Assembly (Requires 894769).....2703394
Poly Box Assembly 892530
Box Liner (for 890010) 888532

Hitches

Fifth Wheel Ball Hitch.....894690
Receiver Style Drawbar Hitch 4114386
Flat bar Style Hitch.....4114566

ROPS Attachments

Upper ROPS (Roll Over Protective Structure) 894761
Steel Door, Left Side (Requires 894761).....2701303
Steel Door, Right Side (Requires 894761) 2701304
Outside Mirrors (Left and Right).....894768
Rear Window 894758
Windshield with Wiper.....894757
Replacement Four Post ROPS 4205580

NOTE: *The four post ROPS equipped as standard equipment on this vehicle cannot be used with cab attachments. If an enclosed cab is desired, the four post ROPS must be replaced with Upper ROPS 894761.*

Hydraulic Attachments

High/Low Gas Hydraulics.....4147940
High/Low Diesel Hydraulics 894713
Implement Lift (A-Frame).....892493
Dry Seal Coupler, 1 set.....894604
Hydraulic PTO (Requires 894712 and 894713)....894644

Truck Attachments

Heavy Duty Mechanical PTO..... 4112981
Quick Aerator.....2701529
Ram Mount (Sprayer Control Mount)..... 4119631
1500 Top Dresser.....2701650
Turn Signal with Right Taillight.....894764
VICON Spreader (Requires 2701601 or 2701602).....
2701600
VICON Hydraulic Power Kit 2701601
VICON Mechanical Power Kit.....2701602
Back-up Alarm 2703183
Exhaust Spark Arrestor 882574
Heater Defroster 894760

Support Literature

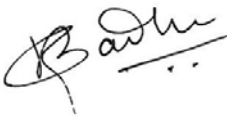
Safety & Operation Manual.....4175886
Parts & Maintenance Manual.....4175887
Suzuki Engine Parts Manual.....4140632
Kubota Engine Parts Manual 4160162
Service & Repair Manual

3 SPECIFICATIONS

3.8 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY ▪ ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ ▪ PROHLÁŠENÍ O SHODĚ ▪ OVERENSSTEMMELSESERKLÆRING ▪ CONFORMITEITSVERKLARING ▪ VASTAVUSDEKLARATSIOON ▪ VAATIMUSTENMUKAISUUSVAKUUTUS ▪ DECLARATION DE CONFORMITE ▪ KONFORMITÄTSERKLÄRUNG ▪ ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ▪ MEGFELELŐSÉGI NYILATKOZAT ▪ DICHIARAZIONE DI CONFORMITÀ ▪ ATBILSTĪBAS DEKLARĀCIJA ▪ ATITIKTIES DEKLARACIJA ▪ DIKJARAZZJONI TAL-KONFORMITÀ ▪ DEKLARACJA ZGODNOŚCI ▪ DECLARAÇÃO DE CONFORMIDADE ▪ DECLARAȚIE DE CONFORMITATE ▪ VYHLÁSENIE O ZHODE ▪ IZJAVA O SKLADNOSTI ▪ DECLARACIÓN DE CONFORMIDAD ▪ DEKLARATION OM ÖVERENSSTÄMMELSE

Business name and full address of the manufacturer ▪ Търговско име и пълен адрес на производителя ▪ Obchodní jméno a plná adresa výrobce ▪ Producentens firmanavn og fulde adresse ▪ Bedrijfsnaam en volledig adres van de fabrikant ▪ Tootja ärinimi ja täielik aadress ▪ Valmistajan toiminimi ja täydellinen osoite ▪ Nom commercial et adresse complète du fabricant ▪ Firmenname und vollständige Adresse des Herstellers ▪ Επωνυμία και ταχυδρομική διεύθυνση κατασκευαστή ▪ A gyártó üzleti neve és teljes címe ▪ Ragione sociale e indirizzo completo del fabbricante ▪ Uzņēmuma nosaukums un pilna ražotāja adrese ▪ Verslo pavadinimas ir pilnas gamintojo adresas ▪ Isem kummerċjali u indirizz sħiħ tal-fabbrikant ▪ Nazwa firmy i pełny adres producenta ▪ Nome da empresa e endereço completo do fabricante ▪ Denumirea comercială şi adresa completă a producătorului ▪ Obchodný názov a úplná adresa výrobcu ▪ Naziv podjetja in polni naslov proizvajalca ▪ Nombre de la empresa y dirección completa del fabricante ▪ Tillverkarens företagsnamn och kompletta adress	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA
Product Code ▪ Код на продукта ▪ Kód výrobku ▪ Produktkode ▪ Productcode ▪ Toote kood ▪ Tuotekoodi ▪ Code produit ▪ Produktcode ▪ Κωδικός προϊόντος ▪ Termékkód ▪ Codice prodotto ▪ Produkta kods ▪ Produkto kodas ▪ Kodiċi tal-Prodott ▪ Kod produktu ▪ Código do Produto ▪ Cod produs ▪ Kód výrobku ▪ Oznaka proizvoda ▪ Código de producto ▪ Produktkod	84064
Machine Name ▪ Наименование на машината ▪ Název stroje ▪ Maskinnavn ▪ Machinenaam ▪ Masina nimi ▪ Laitteen nimi ▪ Nom de la machine ▪ Maschinenbezeichnung ▪ Ονομασία μηχανήματος ▪ Gépnév ▪ Denominazione della macchina ▪ Iekārtas nosaukums ▪ Mašinos pavadinimas ▪ Isem tal-Magna ▪ Nazwa urządzenia ▪ Nome da Máquina ▪ Numele echipamentului ▪ Názov stroja ▪ Naziv stroja ▪ Nombre de la máquina ▪ Maskinens namn	Diesel Turf Truckster
Designation ▪ Предназначение ▪ Označení ▪ Betegnelse ▪ Benaming ▪ Nimetus ▪ Tyyppimerkintä ▪ Pažymėjimas ▪ Bezeichnung ▪ Χαρακτηρισμός ▪ Megnevezés ▪ Funzione ▪ Apzīmējums ▪ Lithuanian ▪ Denominazzjoni ▪ Oznaczenie ▪ Designação ▪ Specificație ▪ Označenie ▪ Namen stroja ▪ Descripción ▪ Beteckning	Article 13
Serial Number ▪ Сериен номер ▪ Sériové číslo ▪ Serienummer ▪ Serienummer ▪ Seerianumber ▪ Valmistusnumero ▪ Numéro de série ▪ Seriennummer ▪ Σειριακός αριθμός ▪ Sorozatszám ▪ Numero di serie ▪ Sērijas numurs ▪ Serijos numeris ▪ Numru Serjali ▪ Numer seryjny ▪ Número de Série ▪ Număr de serie ▪ Sériové číslo ▪ Serijska številka ▪ Número de serie ▪ Serienummer	8406401651-8406404500
Engine ▪ Двигател ▪ Motor ▪ Motor ▪ Motor ▪ Mootor ▪ Moottori ▪ Moteur ▪ Motor ▪ Μηχανή ▪ Modulnév ▪ Motore ▪ Dzinējs ▪ Variklis ▪ Saħħa Netta Installata ▪ Silnik ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor ▪ Motor	Kubota D1105-E3B
Net Installed Power ▪ Нетна инсталирана мощност ▪ Čistý instalovaný výkon ▪ Installeret nettoeffekt ▪ Netto geïnstalleerd vermogen ▪ Installeeritud netovõimsus ▪ Asennettu nettoteho ▪ Puissance nominale nette ▪ Installierte Nettoleistung ▪ Καθαρή εγκατεστημένη ισχύς ▪ Nettó beépített teljesítmény ▪ Potenza netta installata ▪ Paredzētā tīkla jauda ▪ Grynoji galia ▪ Wisa' tal-Qtugħ ▪ Moc zainstalowana netto ▪ Potência instalada ▪ Puterea instalată netă ▪ Čistý inštalovaný výkon ▪ Neto vgrajena moč ▪ Potencia instalada neta ▪ Nettoeffekt	18,5 kW @ 3200 RPM
Cutting Width ▪ Широчина на рязане ▪ Šířka řezu ▪ Skærebredde ▪ Maaibreedte ▪ Lõikelaius ▪ Leikkuuleveys ▪ Largeur de coupe ▪ Schnittbreite ▪ Μήκος μισινέζας ▪ Vágási szélesség ▪ Larghezza di taglio ▪ Griešanas platums ▪ Pjovimo plotis ▪ Tikkonforma mad-Direttivi ▪ Szerokość cięcia ▪ Largura de Corte ▪ Lățimea de tăiere ▪ Šírka záberu ▪ Širina reza ▪ Anchura de corte ▪ Klippbredd	NA
Conforms to Directives ▪ В съответствие с директивите ▪ Splňuje podmínky směrnic ▪ Er i overensstemmelse med direktiver ▪ Voldoet aan de richtlijnen ▪ Vastab direktiividele ▪ Direktiivien mukainen ▪ Conforme aux directives ▪ Entspricht Richtlinien ▪ Ακολουθήστε πιστά τις Οδηγίες ▪ Megfelel az irányelveknek ▪ Conforme alle Direttive ▪ Atbilst direktīvām ▪ Atitinka direktyvų reikalavimus ▪ Valutazzjoni tal-Konformità ▪ Dyrektywy związane ▪ Cumpre as Directivas ▪ Respectă Directivele ▪ Je v súlade so smernicami ▪ Skladnost z direktivami ▪ Cumple con las Directivas ▪ Uppfyller direktiv	2004/108/EC 2006/42/EC 2000/14/EC, 2005/88/EC 2006/66/EC
Conformity Assessment ▪ Оценка за съответствие ▪ Hodnocení plnění podmínek ▪ Overensstemmelsesvurdering ▪ Conformiteitsbeoordeling ▪ Vastavushindamine ▪ Vaatimustenmukaisuuden arviointi ▪ Evaluation de conformité ▪ Konformitätsbeurteilung ▪ Διαπίστωση Συμμόρφωσης ▪ Megfelelőség-értékelés ▪ Valutazione della conformità ▪ Atbilstības novērtējums ▪ Atitikties įvertinimas ▪ Livell tal-Qawwa tal-Ħoss Imkejjel ▪ Ocena zgodności ▪ Avaliação de Conformidade ▪ Evaluarea conformității ▪ Vyhodnotenie zhodnosti ▪ Ocena skladnosti ▪ Evaluación de conformidad ▪ Bedömning av överensstämmelse	2006/42/EC Annex VIII
Measured Sound Power Level ▪ Измерено ниво на звукова мощност ▪ Naměřený akustický výkon ▪ Målte lydstyrkeniveau ▪ Gemeten geluidsniveau ▪ Mõõdetud helivõimsuse tase ▪ Mitattu äänitehotaso ▪ Niveau de puissance sonore mesuré ▪ Gemessener Schalldruckpegel ▪ Σταθμισμένο επίπεδο ηχητικής ισχύος ▪ Mért hangteljesítményszint ▪ Livello di potenza sonora misurato ▪ Izmērītais skaņas jaudas līmenis ▪ Iśmatuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna mierzona ▪ Nível sonoro medido ▪ Nivelul măsurat al puterii acustice ▪ Nameraná hladina akustického výkonu ▪ Izmerjena raven zvočne moči ▪ Nivel de potencia sonora medido ▪ Uppmätt ljudeffektsnivå	103 dB(A) LWA
Guaranteed Sound Power Level ▪ Гарантирано ниво на звукова мощност ▪ Garantovaný akustický výkon ▪ Garanteret lydstyrkeniveau ▪ Gegarandeerd geluidsniveau ▪ Garanteeritud helivõimsuse tase ▪ Taattu äänitehotaso ▪ Niveau de puissance sonore garanti ▪ Garantierter Schalldruckpegel ▪ Εγγυημένο επίπεδο ηχητικής ισχύος ▪ Szavatolt hangteljesítményszint ▪ Livello di potenza sonora garantito ▪ Garantētais skaņas jaudas līmenis ▪ Garantuotas garso stiprumo lygis ▪ Livell tal-Qawwa tal-Ħoss Iggarantit ▪ Moc akustyczna gwarantowana ▪ Nível sonoro farantido ▪ Nivelul garantat al puterii acustice ▪ Garantovaná hladina akustického výkonu ▪ Zajamčena raven zvočne moči ▪ Nivel de potencia sonora garantizado ▪ Garanterad ljudeffektsnivå	104 dB(A) LWA
Conformity Assessment Procedure (Noise) ▪ Оценка за съответствие на процедурата (Шум) ▪ Postup hodnocení plnění podmínek (hluk) ▪ Procedure for overensstemmelsesvurdering (Støj) ▪ Procedure van de conformiteitsbeoordeling (geluid) ▪ Vastavushindamismenetlus (müra) ▪ Vaatimustenmukaisuuden arviointimenettely (Melu) ▪ Procédure d'évaluation de conformité (bruit) ▪ Konformitätsbeurteilungsverfahren (Geräusch) ▪ Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) ▪ Megfelelőség-értékelési eljárás (Zaj) ▪ Procedura di valutazione della conformità (rumore) ▪ Atbilstības novērtējuma procedūra (troksnis) ▪ Atitikties įvertinimo procedūra (garsas) ▪ Proċedura tal-Valutazzjoni tal-Konformità (Ħoss) ▪ Procedura oceny zgodności (poziom hałasu) ▪ Processo de avaliação de conformidade (nível sonoro) Procedura de evaluare a conformității (zgomot) ▪ Postup vyhodnocovania zhodnosti (hluk) ▪ Postopek za ugotavljanje skladnosti (hrup) ▪ Procedimiento de evaluación de conformidad (ruido) ▪ Procedur för bedömning av överensstämmelse (buller)	2000/14/EC Annex V
UK Notified Body for 2000/14/EC ▪ Нотифициран орган в Обединеното кралство за 2000/14/ЕО ▪ Úřad certifikovaný podle směrnice č. 2000/14/EC ▪ Det britiske bemyndigede organ for 2001/14/EF ▪ Engels adviesorgaan voor 2000/14/EG ▪ Ühendkuningriigi teavitatud asutus direktiivi 2000/14/EÜ mõistes ▪ Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isossa-Britanniassa ▪ Organisme notifié concernant la directive 2000/14/CE ▪ Britische benannte Stelle für 2000/14/EG ▪ Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/ΕΚ ▪ 2000/14/EK – egyesült királyságbeli bejelentett szervezet ▪ Organismo Notificato in GB per 2000/14/CE ▪ 2000/14/EK AK reġistrētā organizācija ▪ JK notifikuotosios įstaigos 2000/14/EC ▪ Korp Notifikat tar-Renju Unit għal 2000/14/KE ▪ Dopuszczona jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE ▪ Entidade notificada no Reino Unido para 2000/14/CE ▪ Organism notificat în Marea Britanie pentru 2000/14/CE ▪ Notifikovaný orgán Spojeného kráľovstva pre smernicu 2000/14/ES ▪ Britanski priglašeni organ za 2000/14/ES ▪ Cuerpo notificado en el Reino Unido para 2000/14/CE ▪ Anmält organ för 2000/14/EG i Storbritannien	Number: 1088 Sound Research Laboratories Limited Holbrook House, Little Waldingfield Sudbury, Suffolk CO10 0TH
Operator Ear Noise Level ▪ Оператор на нивото на доловим от ухото шум ▪ Hladina hluku v oblasti uší operátora ▪ Støjniveau i førers ørehøjde ▪ Geluidsniveau oor bestuurder ▪ Müratase operaatori kõrvas ▪ Melutaso käyttäjän korvan kohdalla ▪ Niveau de bruit à hauteur des oreilles de l'opérateur ▪ Schallpegel am Bedienerohr ▪ Επίπεδο θορύβου σε λειτουργία ▪ A kezelő fülénél mért zajszint ▪ Livello di potenza sonora all'orecchio dell'operatore ▪ Trokšņa līmenis pie operatora auss ▪ Dirbančiojo su mašina patiriamo triukšmo lygis ▪ Livell tal-Ħoss fil-Widna tal-Operatur ▪ Dopuszczalny poziom hałasu dla operatora ▪ Nível sonoro nos ouvidos do operador ▪ Nivelul zgomotului la urechea operatorului ▪ Hladina hluku pôsobiaca na sluch operátora ▪ Raven hrupa pri ušesu upravljavca ▪ Nivel sonoro en el oído del operador ▪ Ljudnivå vid förarens öra	84 dB(a) Leq (2006/42/EC)

Harmonised standards used • Използвани хармонизирани стандарти • Použité harmonizované normy • Brugte harmoniserede standarder • Gebruikte geharmoniseerde standaards • Kasutatud ühtlustatud standardid • Käytetyt yhdenmukaistetut standardit • Normes harmonisées utilisées • Angewandte harmonisierte Normen • Εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν • Harmonizált szabványok • Standard armonizzati applicati • Izmantotie saskaņotie standarti • Panaudoti suderinti standartai • Standards armonizzati użati • Normy spójne powiązane • Normas harmonizadas usadas • Standardele armonizate utilizate • Použité harmonizované normy • Uporabljeni usklajeni standardi • Estándares armonizados utilizados • Harmoniserade standarder som används	BS EN ISO 20643 BS EN ISO 5349-1 BS EN ISO 5349-2
Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standaards en specificaties • Kasutatud tehnilised standardid ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Τεχνικά πρότυπα και προδιαγραφές που χρησιμοποιήθηκαν • Műszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standarti un specifikācijas • Panaudoti techniniai standartai ir techninė informacija • Standards u speċifikazzjonijiet tekniċi użati • Normy i specyfikacje techniczne powiązane • Normas técnicas e especificações usadas • Standardele tehnice şi specificaţiile utilizate • Použité technické normy a špecifikácie • Uporabljeni tehnični standardi in specifikacije • Estándares y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används	ISO 2631-1 SAE 21299
The place and date of the declaration • Място и дата на декларацията • Místo a datum prohlášení • Sted og dato for erklæringen • Plaats en datum van de verklaring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la déclaration • Ort und Datum der Erklärung • Τόπος και ημερομηνία δήλωσης • A nyilatkozat kelte (hely és idő) • Luogo e data della dichiarazione • Deklarācijas vieta un datums • Deklaracijos vieta ir data • Il-post u d-data tad-dikjarazzjoni • Miejsce i data wystawienia deklaracji • Local e data da declaração • Locul şi data declaraţiei • Miesto a dátum vyhlásenia • Kraj in datum izjave • Lugar y fecha de la declaración • Plats och datum för deklarationen	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA January 1, 2011
Signature of the person empowered to draw up the declaration on behalf of the manufacturer, holds the technical documentation and is authorised to compile the technical file, and who is established in the Community. Подпис на човека, упълномощен да състави декларацията от името на производителя, който поддържащ техническата документация и е оторизиран да изготви техническия файл и е регистриран в общността. Podpis osoby oprávněné sestavit prohlášení jménem výrobce, držet technickou dokumentaci a osoby oprávněné sestavit technické soubory a založené v rámci Evropského společenství. Underskrift af personen, der har fuldmagt til at udarbejde erklæringen på vegne af producenten, der er indehaver af dokumentationen og er bemyndiget til at udarbejde den tekniske journal, og som er baseret i nærområdet. Handtekening van de persoon die bevoegd is de verklaring namens de fabrikant te tekenen, de technische documentatie bewaart en bevoegd is om het technische bestand samen te stellen, en die is gevestigd in het Woongebied. Ühenduse registrisse kantud isiku allkiri, kes on volitatud tootja nimel deklaratsiooni koostama, kes omab tehnilist dokumentatsiooni ja kellel on õigus koostada tehniline toimik. Sen henkilön allekirjoitus, jolla on valmistajan valtuutus vakuutuksen laadintaan, jolla on hallussaan tekniset asiakirjat, joka on valtuutettu laatimaan tekniset asiakirjat ja joka on sijoittautunut yhteisöön. Signature de la personne habilitée à rédiger la déclaration au nom du fabricant, à détenir la documentation technique, à compiler les fichiers techniques et qui est implantée dans la Communauté. Unterschrift der Person, die berechtigt ist, die Erklärung im Namen des Herstellers abzugeben, die die technischen Unterlagen aufbewahrt und berechtigt ist, die technischen Unterlagen zusammenzustellen, und die in der Gemeinschaft niedergelassen ist. Υπογραφή ατόμου εξουσιοδοτημένου για την σύνταξη της δήλωσης εκ μέρους του κατασκευαστή, ο οποίος κατέχει την τεχνική έκθεση και έχει την εξουσιοδότηση να ταξινομήσει τον τεχνικό φάκελο και ο οποίος είναι διορισμένος στην Κοινότητα. A gyártó nevében meghatalmazott személy, akinek jogában áll módosítania a nyilatkozatot, a műszaki dokumentációt őrzi, engedéllyel rendelkezik a műszaki fájl összeállításához, és aki a közösségben letelepedett személy. Firma della persona autorizzata a redigere la dichiarazione a nome del fabbricante, in possesso Della documentazione tecnica ed autorizzata a costituire il fascicolo tecnico, che deve essere stabilita nella Comunità. Tās personas paraksts, kura ir pilnvarota deklarācijas sastādīšanai ražotāja vārdā, kurai ir tehniskā dokumentācija, kura ir pilnvarota sagatavot tehnisko reģistru un kura ir apstiprināta Kopienā. Asmuo, kuris yra gana žinomas, kuriam gamintojas suteikė įgaliojimus sudaryti šią deklaraciją, ir kuris ją pasirašė, turi visą techninę informaciją ir yra įgaliotas sudaryti techninės informacijos dokumentą. Il-firma tal-persuna awtorizzata li tfassal id-dikjarazzjoni f'isem il-fabbrikant, għandha d-dokumentazzjoni teknika u hija awtorizzata li tikkompila l-fajl tekniku u li hija stabbilita fil-Komunità. Podpis osoby upoważnionej do sporządzenia deklaracji w imieniu producenta, przechowującej dokumentację techniczną, upoważnioną do stworzenia dokumentacji technicznej oraz wyznaczonej ds. wspólnotowych. Assinatura da pessoa com poderes para emitir a declaração em nome do fabricante, que possui a documentação técnica, que está autorizada a compilar o processo técnico e que está estabelecida na Comunidade. Semnătura persoanei împuternicite să elaboreze declaraţia în numele producătorului, care deţine documentaţia tehnică, este autorizată să compileze dosarul tehnic şi este stabilită în Comunitate. Podpis osoby poverenej vystavením vyhlásenia v mene výrobcu, ktorá má technickú dokumentáciu a je oprávnená spracovať technické podklady a ktorá je umiestnená v Spoločenstve. Podpis osebe, pooblaščene za izdelavo izjave v imenu proizvajalca, ki ima tehnično dokumentacijo in lahko sestavlja spis tehnične dokumentacije, ter ima sedež v Skupnosti. Firma de la persona responsable de la declaración en nombre del fabricante, que posee la documentación técnica y está autorizada para recopilar el archivo técnico y que está establecido en la Comunidad. Undertecknas av den som bemyndigad att upprätta deklarationen å tillverkarens vägnar, innehar den tekniska dokumentationen och är bemyndigad att sammanställa den tekniska informationen och som är etablerad i gemenskapen.	2006/42/EC Annex II 1.A.2 Tim Lansdell Technical Director Ransomes Jacobsen Limited West Road, Ransomes Europark, Ipswich, IP3 9TT, England 2006/42/EC Annex II 1.A.10  Vasant Godhalekar VP of Engineering Jacobsen, A Textron Company 11524 Wilmar Blvd, Charlotte, NC 28273, USA
Certificate Number • Номер на сертификат • Číslo osvědčení • Certifikatnummer • Certificaatnummer • Sertifikaadi number • Hyväksyntänumero • Numéro de certificat • Bescheinigungsnummer • Αριθμός Πιστοποιητικού • Hitelesítési szám • Numero del certificato • Sertifikāta numurs • Sertifikato numeris • Numru taċ-Ċertifikat • Numer certyfikatu • Número do Certificado • Număr certificat • Číslo osvedčenia • Številka certifikata • Número de certificado • Certifikatsnummer	4175887 Rev B

GB English | **BG** български | **CZ** čeština | **DK** dansk | **NL** Nederlands | **EE** eesti | **FI** suomi | **FR** français | **DE** Deutsch | **GR** Ελληνικά | **HU** magyar

IT italiano | **LV** latviešu valoda | **LT** lietuvių kalba | **MT** Malki | **PL** polski | **PT** português | **RO** Română | **SK** slovenčina | **SI** slovenščina | **ES** Ελληνικά | **SE** Svenska

4 ADJUSTMENTS

4.1 GENERAL

⚠ WARNING

To prevent injury, depress clutch pedal and shift transmission to Neutral, engage parking brake, stop engine, and remove key from ignition switch before making any adjustments or performing maintenance.

Make sure the vehicle is parked on a solid and level surface. Never work on a vehicle that is supported only by the jack. Always use jack stands.

If only the front or rear of the vehicle is raised, place chocks in front of and behind the wheels that are not raised.

1. Adjustments and maintenance should always be performed by a qualified technician. If proper adjustment cannot be made, contact an authorized Cushman Dealer.
2. Replace, do not adjust, worn, or damaged components.
3. Long hair, jewelry, or loose fitting clothing may get tangled in moving parts.

⚠ CAUTION

Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.

4. Do not change governor settings or overspeed the engine.
5. Keep hands and feet away from moving parts. If possible do not make adjustments with the engine running.

4.2 ENGINE ACCESS

Never remove or install the engine cover while the engine is running. The engine cover is a *machinery guard* and its removal exposes you to moving parts. Keep hands, hair, and clothing away from flywheel, radiator cooling fan, alternator fan, engine belts, pulleys, and air intake.

⚠ WARNING

Keep clothing, hands, and hair away from moving parts. These items could become entangled, causing serious personal injury.

For servicing the engine and related components, the engine cover can be tilted forward or removed.

To gain access to the engine, unlock key-lock if installed, push the engine cover latch towards the rear of the unit and tilt cover forward.

When replacing the engine cover, make sure the retaining tabs located at the front corners of the engine cover are inserted into the slots in the floorboard. Tilt seat to the rear until the engine latch engages. Lock key-lock if equipped.

⚠ WARNING

Failure to latch the seat properly can result in the engine cover tipping forward causing loss of control of the vehicle and possible personal injury.

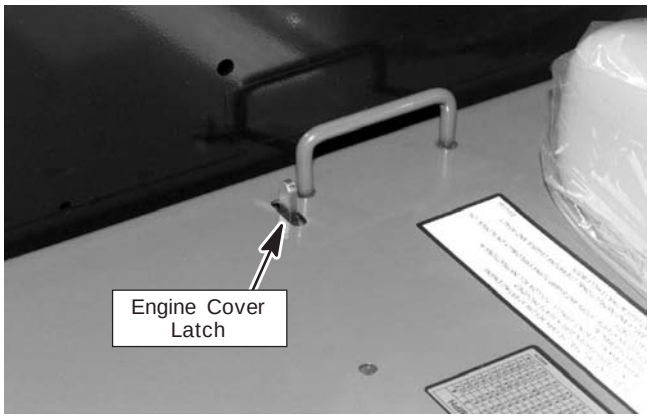


Figure 4A

Figure 4B

4.3 FRONT COWL ACCESS

The front cowl opens to gain access to two access panels, fuse panel, horn, and master cylinder reservoir.

To open the front cowl locate the release lever at the upper left corner of front clip near the left side headlight.

Pull the lever toward the headlight to release the front cowl latch and at the same time pull up on the front cowl.

Fully open the cowl and allow it to rest on the steering wheel (or upper ROPS structure if installed).

The front cowl will not *spring up* when the release lever is pulled and so must be lifted manually.

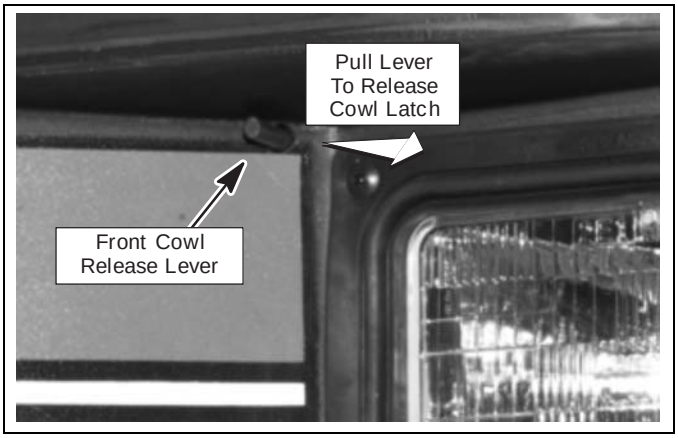


Figure 4C

4.4 ACCESS PANELS

There are two access panels located under the front cowl and one located in the middle of the floorboard.

Remove panel **(A)** under cowl to access the shifter linkage and wiring for the instrument panel.

Remove panel **(B)** under cowl to access the front suspension.

Remove the center panel **(C)** in the middle of floorboard to access the throttle cable, accelerator pedal linkage, wire harness, and rear hydraulic brake line.

NOTE: *It will be necessary to remove the accelerator pedal in order to completely remove the center floorboard panel.*

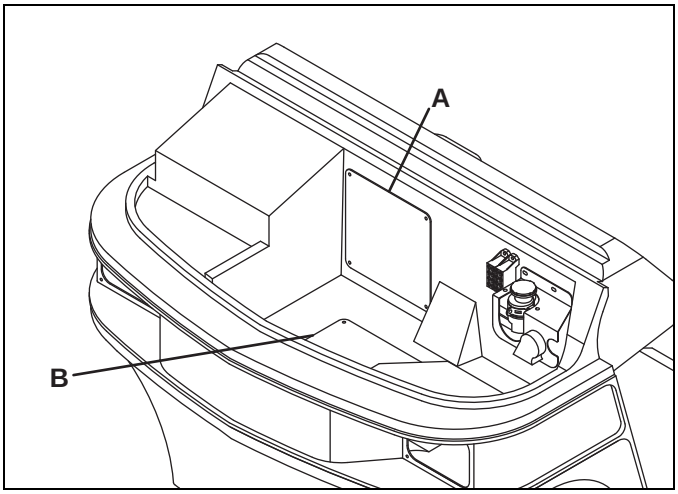


Figure 4D

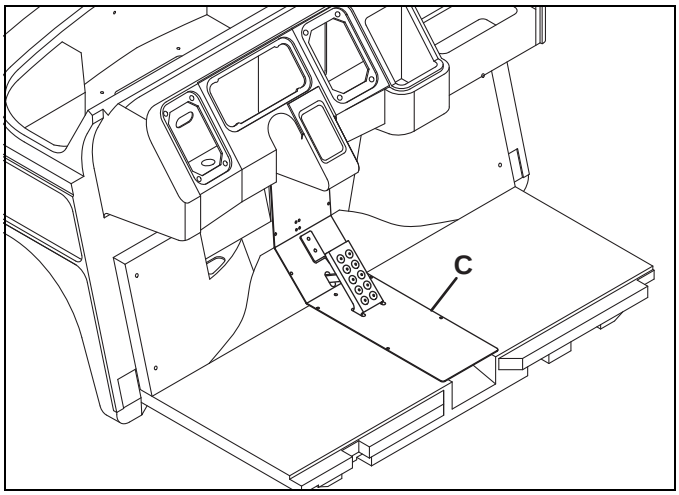


Figure 4E

4.5 DIESEL ALTERNATOR BELT

Inspect and adjust new belt after first 24-48 hours of operation. Adjust every 200 hours thereafter.

Adjust alternator pulley so belt deflects 1/4 to 1/2 in. (6 to 12 mm) with a 20 lb. push at midpoint between water pump and alternator pulleys.

If tension is incorrect loosen alternator mounting bolts **(D)** and adjust alternator until proper belt tension is achieved.

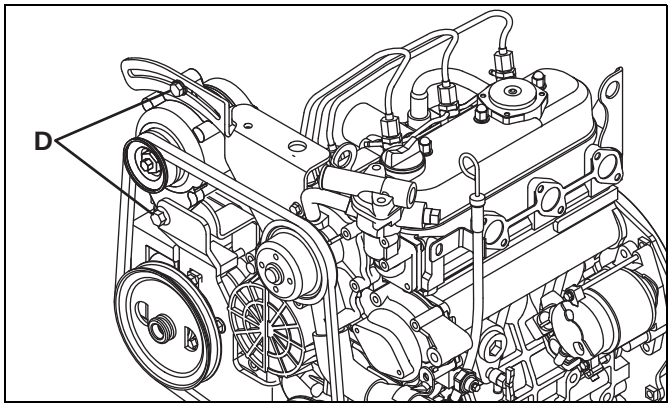


Figure 4F

4.6 DIESEL HYDRAULIC PUMP BELT

Inspect and adjust new belt after first 24-48 hours of operation. Adjust every 200 hours thereafter.

Adjust hydraulic pump belt so belt deflects 1/4 to 1/2 in. (6 to 12 mm) with a 20 lb. push at midpoint between pulleys.

If tension is incorrect loosen pump mounting bolts **(E)** and carefully pry pump away from the engine until proper belt tension is achieved.

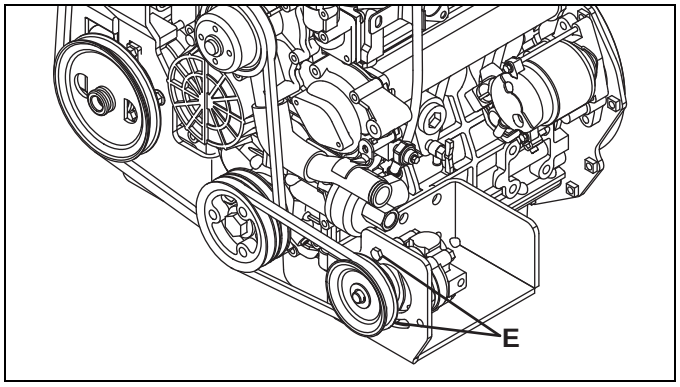


Figure 4G

4.7 GAS POWER STEERING - ALTERNATOR BELT

Inspect and adjust new belt after first 24-48 hours of operation. Adjust every 200 hours thereafter.

Adjust power steering pump so belt deflects 1/4 to 1/2 in. (6 to 12 mm) with a 39 lb. push at midpoint between pulleys.

If tension is incorrect loosen power steering pump mounting bolts **(F)** and carefully pry pump away from the engine until proper belt tension is achieved.

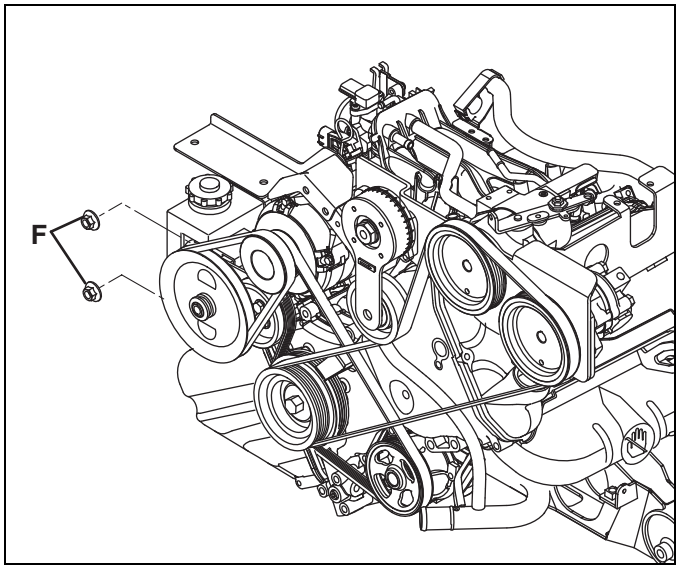


Figure 4H

4.8 GAS HYDRAULIC PUMP BELT

Inspect new belt after first 24-48 hours of operation.

Belt is dynamically adjusted with a spring loaded tensioner to 12 ft-lbs. *No adjustment is required*.

To remove belt rotate tensioner towards radiator to release tension and remove belt from pulleys.

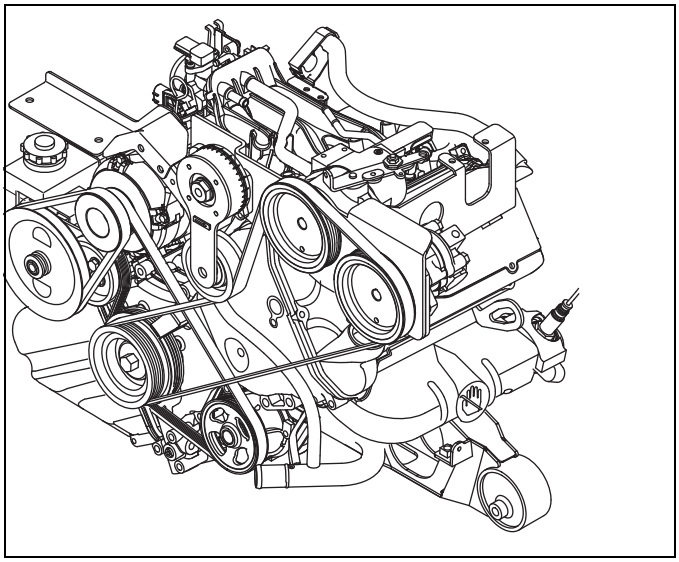


Figure 4I

4.9 PARKING BRAKE CABLE

1. Remove the engine cover. Put chocks in front of and behind at least two wheels at opposite corners of vehicle.
2. Engage parking brake. If handle is at an angle greater than 45° to the panel, adjustment is required.
3. Disengage parking brake.
4. Tighten adjustment nut **(G)** a couple of turns.
5. Engage parking brake. Repeat steps 3 and 4 until handle is at an approximate 45° angle when parking brake is engaged.

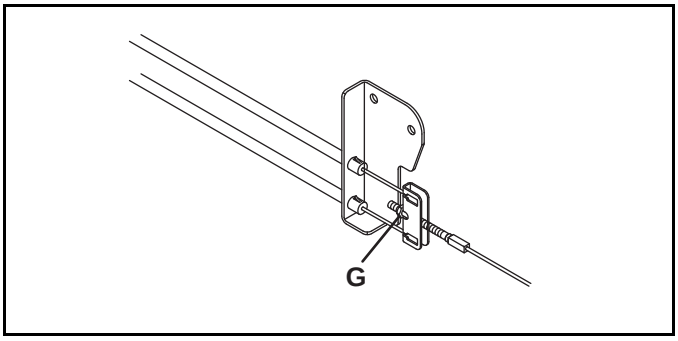


Figure 4J

4 ADJUSTMENTS

4.10 TORQUE SPECIFICATION

NOTICE

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Cushman is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Jacobsen uses Grade 5 (Inch) or Grade 8.8 (Metric) bolts as standard, unless otherwise noted.

AMERICAN NATIONAL STANDARD FASTENERS			
SIZE	UNITS	GRADE 5	GRADE 8
#6-32	in-lbs (Nm)	20 (2.3)	–
#8-32	in-lbs (Nm)	24 (2.7)	30 (3.4)
#10-24	in-lbs (Nm)	35 (4.0)	45 (5.1)
#10-32	in-lbs (Nm)	40 (4.5)	50 (5.7)
#12-24	in-lbs (Nm)	50 (5.7)	65 (7.3)
1/4-20	in-lbs (Nm)	95 (10.7)	125 (14.1)
1/4-28	in-lbs (Nm)	95 (10.7)	150 (17.0)
5/16-18	in-lbs (Nm)	200 (22.6)	270 (30.5)
5/16-24	in-lbs (Nm)	240 (27.1)	300 (33.9)
3/8-16	ft-lbs (Nm)	30 (40.7)	40 (54.2)
3/8-24	ft-lbs (Nm)	35 (47.5)	45 (61.0)

AMERICAN NATIONAL STANDARD FASTENERS			
SIZE	UNITS	GRADE 5	GRADE 8
7/16-14	ft-lbs (Nm)	50 (67.8)	65 (88.1)
7/16-20	ft-lbs (Nm)	55 (74.6)	70 (94.9)
1/2-13	ft-lbs (Nm)	75 (101.7)	100 (135.6)
1/2-20	ft-lbs (Nm)	85 (115.3)	110 (149.2)
9/16-12	ft-lbs (Nm)	105 (142.4)	135 (183.1)
9/16-18	ft-lbs (Nm)	115 (155.9)	150 (203.4)
5/8-11	ft-lbs (Nm)	150 (203.4)	195 (264.4)
5/8-18	ft-lbs (Nm)	160 (217.0)	210 (284.8)
3/4-10	ft-lbs (Nm)	170 (230.5)	220 (298.3)
3/4-16	ft-lbs (Nm)	175 (237.3)	225 (305.1)
7/8-14	ft-lbs (Nm)	300 (406.8)	400 (542.4)

METRIC FASTENERS							
SIZE	UNITS	4.8	5.8	8.8	10.9	12.9	Non Critical Fasteners into Aluminum
M4	Nm (in-lbs)	1.2 (11)	1.7 (15)	2.9 (26)	4.1 (36)	5.0 (44)	2.0 (18)
M5	Nm (in-lbs)	2.5 (22)	3.2 (28)	5.8 (51)	8.1 (72)	9.7 (86)	4.0 (35)
M6	Nm (in-lbs)	4.3 (38)	5.7 (50)	9.9 (88)	14.0 (124)	16.5 (146)	6.8 (60)
M8	Nm (in-lbs)	10.5 (93)	13.6 (120)	24.4 (216)	33.9 (300)	40.7 (360)	17.0 (150)
M10	Nm (ft-lbs)	21.7 (16)	27.1 (20)	47.5 (35)	66.4 (49)	81.4 (60)	33.9 (25)
M12	Nm (ft-lbs)	36.6 (27)	47.5 (35)	82.7 (61)	116.6 (86)	139.7 (103)	61.0 (45)
M14	Nm (ft-lbs)	58.3 (43)	76.4 (55)	131.5 (97)	184.4 (136)	219.7 (162)	94.9 (70)

5.1 GENERAL

WARNING

Before you clean, adjust, or repair this equipment, depress clutch pedal and shift transmission to Neutral, engage parking brake, stop engine, and remove key from ignition switch to prevent injuries.

Make sure the vehicle is parked on a solid and level surface. Never work on a vehicle that is supported only by a jack. Always use jack stands.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustments cannot be made contact an Authorized Cushman Dealer.
2. Inspect the equipment on a regular basis, establish a maintenance schedule, and keep detailed records.
   a. Keep the equipment clean.
   b. Keep all moving parts properly adjusted and lubricated.
   c. Replace worn or damaged parts before operating the machine.
   d. Keep all fluids at their proper levels.
   e. Keep shields in place and all hardware securely fastened.
   f. Keep tires properly inflated.
3. Long hair, jewelry, or loose fitting clothing may get tangled in moving parts.
4. Use the illustrations in the **Parts & Maintenance Manual** as reference for the disassembly and assembly of components.
5. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to federal, state, and local regulations.
6. Keep hands and feet away from moving parts. Whenever possible do not make adjustments with the engine running.

5.2 ENGINE

IMPORTANT: A separate Engine Manual, prepared by the engine manufacturer, is supplied with this vehicle. Read the Engine Manual carefully until you are familiar with the operation and maintenance of the engine. Proper attention to the engine manufacturer's directions will assure maximum service life of the engine. To order replacement engine manuals contact the engine manufacturer.

The proper break-in of a new engine can make a considerable difference to the performance and life of the engine.

NOTICE

The vehicle is designed to operate most efficiently at the preset governor setting. Do not change the engine governor settings or overspeed the engine.

During the break-in period Jacobsen recommends the following:

1. During the first 50 hours of operation a new engine should be allowed to reach an operating temperature of at least 140°F (60°C) prior to operation at full load.
2. Check the engine oil level twice daily during the first 50 hours of operation. Higher than normal oil consumption is not uncommon during the break-in period.
3. Change engine oil and oil filter element after first 35 hours of operation.
4. Check and adjust hydraulic pump and alternator belts. See **Sections 4.5, 4.6, 4.7** and **4.8**.
5. Refer to **Section 7.3** and Engine Manual for specific maintenance intervals.
6. If the injection pump, injectors, or the fuel system require service contact an authorized Jacobsen Dealer.

Keep your engine clean. If dirt has accumulated on the engine it should be washed with a nonflammable solvent or strong detergent.

When washing becomes necessary it can be carried out concurrent with servicing the vehicle.

In order to maintain reliable service from your engine a regular check-up and maintenance schedule should be followed. Proper maintenance will prolong the engine's life and avoid premature overhaul.

5.3 ENGINE OIL

Check the engine oil at the start of each day before starting the engine.

To check the engine oil remove the dipstick and wipe it with a clean rag. Reinsert the dipstick until it contacts the oil tube. Remove the dipstick and read the oil level.

The oil level should always be between the ADD and FULL mark on the dipstick. If oil level is below the ADD mark remove the filler cap and add oil to bring the level up between marks. *Do Not Overfill.*

NOTE: *If the engine has recently been running allow time (with engine turned off) to let the oil settle to obtain an accurate oil level reading.*

Diesel Engine: Use only engine oils with API classification CD or CE.

Gas Engine: Use only engine oils with API classification SJ.

Using oil other than the service class listed or oil change intervals longer than recommended could reduce engine life. Damage to engine due to improper maintenance or use of incorrect oil quality and/or viscosity is not covered by the engine warranty.

Diesel Engine: Perform initial oil change after first 35 hours of operation and every 75 hours or two months thereafter. See Engine Manual.

Gas Engine: Perform initial oil change after first 50 hours of operation and every 100 hours or three months thereafter. See Engine Manual.

Significant oil loss can damage the engine. Considerable oil loss could be due to a loose or incorrectly installed drain plug, cracked gaskets, or a loose oil filter.

Drain plugs are located beneath the engine in the oil pan. Remove both plugs when changing the oil.

Check drain plugs and oil for metal chips that could indicate engine damage. Immediately replace drain plugs with damaged gasket surfaces.

After oil has completely drained clean excess oil from oil pan and drain plugs. Install drain plugs and tighten securely. Refer to Engine Manual for proper torque.

Always replace the engine oil filter when changing the engine oil. Apply a light coat of engine oil to the rubber gasket surface of new filter before installing.

Diesel Engine: Fill Kubota engine with approximately 5.4 qts. (5.1 l) of clean engine oil. Check oil level and add additional oil if required.

Gas Engine: Fill Suzuki engine with approximately 3.6 qts. (3.4 l) of clean engine oil. Check oil level and add additional oil if required.

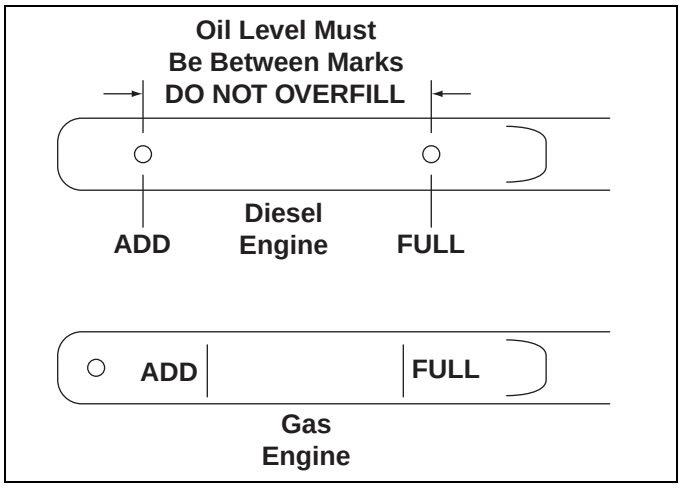


Figure 5A

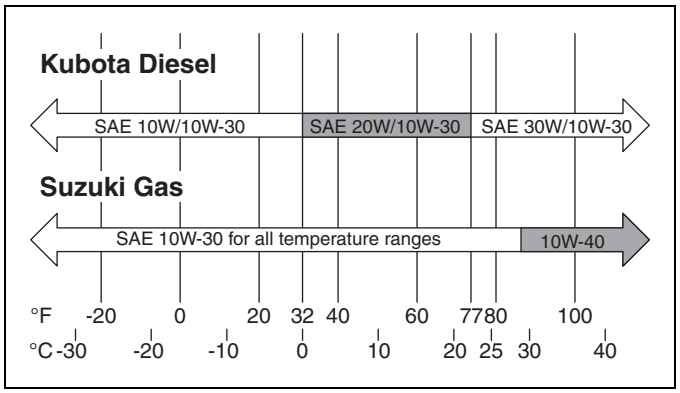

Kubota Diesel
SAE 10W/10W-30
SAE 20W/10W-30
SAE 30W/10W-30
Suzuki Gas
SAE 10W-30 for all temperature ranges
10W-40
°F -20 0 20 32 40 60 77 80 100
°C -30 -20 -10 0 10 20 25 30 40

Figure 5B

Diesel Engine:	
Above 77°F (25°C)	SAE 30W or SAE10W30/10W40
32 to 77°F (0 to 25°C)	SAE 20W or SAE 10W30/10W40
Below 32° (0°C)	SAE10W or SAE 10W30/10W40
Gas Engine:	
All temperature ranges	SAE 10W30
Above 85° F (29° C)	SAE 10W 40

Replacement Oil Filters

Kubota Diesel	4113986
Suzuki Gas	2701908

5.4 POWER STEERING RESERVOIR

⚠ WARNING

Before servicing or doing any maintenance work around the engine area make sure the engine has had time to cool. Serious burns can result if the engine or surrounding surfaces are hot.

The power steering reservoir is located on the right side of the engine below the alternator.

The level in the reservoir should be checked after the first 35 and again at 70 hours. After that the level should be checked every 100 hours.

When checking the fluid level before the engine has been warmed up the level should be at the COLD mark on the dipstick. After the engine has been warmed up and the fluid is warm the level should be between the COLD and HOT marks. Use General Motors® Power Steering Fluid as required to bring fluid up to proper level.

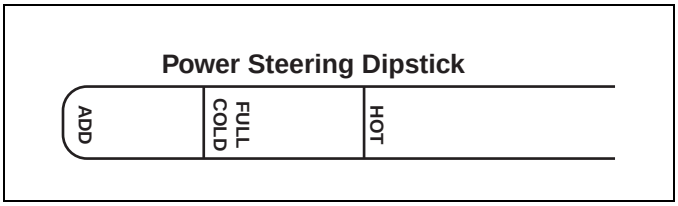


Figure 5C

5.5 MUFFLER AND EXHAUST

⚠ WARNING

Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.

NEVER operate an engine without proper ventilation.

To protect from carbon monoxide poisoning inspect the complete exhaust system regularly and always replace a defective muffler.

If you notice a change in the color or sound of the exhaust stop the engine immediately. Identify the problem and have the system repaired.

Torque all exhaust manifold hardware evenly. Tighten or replace exhaust clamps.

5.6 ENGINE OVERHEAT PROCEDURE

During vehicle operation if the water temperature gauge shows 230° F (110° C) or above and/or the overheat warning buzzer sounds follow this procedure.

1. ***Stop*** the vehicle. **DO NOT shut the engine off.** Place vehicle in Neutral and engage the parking brake.
2. Immediately disengage any accessories that are operating.
3. Slow the engine speed to a fast idle.
4. Remove any dirt, chaff, debris, etc. from the radiator intake screen located on the right side of the vehicle.

⚠ CAUTION

Be careful when opening the engine access cover or cleaning the intake screen. Metal surfaces near the radiator and engine may be hot to the touch. Use a brush or gloves to clean screen.

Temperature gauge needle should start to go down approximately 30 seconds after the screen is cleaned. If temperature does not go down STOP the engine and check the following:

1. Check to see if cooling fan is operating. Fan should be turning with coolant above 180° F (82° C) on diesel units or 208° F (97.7° C) on gas units even with ignition switch in OFF position.
2. Check engine oil level.
3. Check for a leak in the cooling system. **Do not** open radiator when hot. Check coolant levels after system completely cools.

Failure to heed the overheat warning and properly maintain the cooling system will cause permanent engine damage.

5.7 COOLING SYSTEM

This vehicle is equipped with a radiator, temperature controlled fan, temperature gauge, and an overheat buzzer.

⚠ WARNING

To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait several hours until it is cool. Even then, use extreme care when removing the cap.

⚠ CAUTION

Do not pour cold water into a hot radiator. Do not operate engine without a proper coolant mixture. Install cap and tighten securely.

⚠ WARNING

The cooling fan is controlled by a temperature switch and may start at any time coolant temperature is above 150° F (65 ° C), even with the ignition switch in the OFF position. Do not attempt to service the cooling system without first disconnecting the negative battery cable or removing the fan fuse.

NEVER add straight antifreeze to the radiator. Mix equal amounts of clean water with ethylene glycol based anti-freeze in a separate container before adding it to the cooling system. Do not use a mixture of more than 50% antifreeze.

Always recycle or dispose of used antifreeze in a responsible manner. Used antifreeze can be harmful to the environment.

1. Check coolant level daily. Radiator should be full and recovery bottle should be up to the **cold** mark.
   a. Tilt engine cover forward to gain access to the radiator.
   b. With the engine stopped and cool, remove radiator cap and check coolant level. The coolant level should be at or within 1/4 in. (6 mm) of the filler port. Fill with a 50/50 antifreeze/water mixture if required.
   c. Visually check the reservoir tank. Coolant level should be at or above **FULL** line but less than 4 in. (102 mm). Add a 50/50 antifreeze/water mixture if required.
2. Drain and refill cooling system every 400 hours or 9 months, whichever comes first. Allow system to cool before draining.
   a. Remove the cooling fan fuse
   b. Remove the radiator cap.
   c. Open the engine block drain and the radiator drain. Remove lower radiator hose. Close both drains and install lower radiator hose once system has completely drained.
   d. Empty and clean the recovery bottle.
   e. Fill radiator to the bottom of the filler neck with 50/50 antifreeze/water mixture.
   f. Fill recovery bottle to full mark with 50/50 antifreeze/water mixture.
3. Keep radiator air passages clean. Use compressed air (30 psi maximum) to clean the fins. Water left between the fins will collect dirt and reduce the amount of air flow to properly cool the engine.
4. To provide proper air flow, do not obstruct the air intake screen on the right side of the vehicle. Keep screen clean.
5. Replace clamps and hoses every two years.
6. If you have to add coolant more than once a month, or add more than one quart at a time, have a authorized Cushman Dealer check the cooling system.

5.8 AIR FILTER

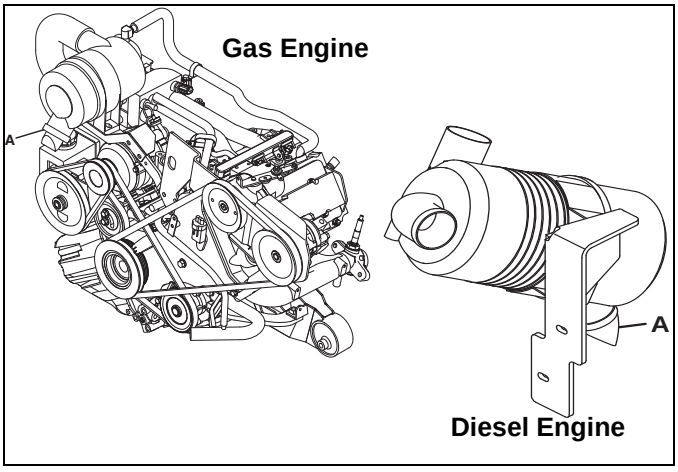
Do not remove the element for inspection or cleaning. Unnecessary removal of the filter increases the risk of injecting dust and other impurities into the engine.

When service is required first clean the outside of the filter housing, then remove the old element as gently as possible and discard.

1. Carefully clean the inside of the filter housing without allowing dust into the air intake.
2. Inspect the new element. Do not use a damaged element and never use an incorrect element.
3. Assemble the new element and make sure it seats properly.
4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator **(A)** must be facing down.
5. Check all hoses and air ducts. Tighten hose clamps.

Replacement (Diesel Only)

1. Clean the outside of the filter housing, especially around hose connections and cover.
2. Note location of hoses. Loosen hose clamps and remove both hoses from air cleaner. Use caution to prevent dust or other debris from entering engine intake hose.
3. Remove air cleaner mounting hardware **(B)**. Air filter is secured with a single screw and nut.
4. Lift the air cleaner assembly out of the vehicle.
5. Unsnap retaining clamps and remove the old element as gently as possible and discard.
6. Carefully clean the inside of the filter housing without allowing dust into the air intake.
7. Inspect the new element. Do not use a damaged element and never use an incorrect element.
8. Assemble the new element and make sure it seats properly.
9. Assemble cap making sure it seals completely around the filter housing. Dust evacuator **(A)** must be facing down.
10. Install air cleaner assembly into the vehicle. Secure with hardware **(B)**.
11. Connect both hoses and tighten hose clamps.



5.9 JUMP STARTING

Before attempting to *jump start* the vehicle check the condition of the discharged battery.

Engage parking brake of both vehicles, shift transmission to Neutral and turn off all electrical loads.

⚠ WARNING

Batteries generate explosive hydrogen gas. To reduce the chance of an explosion avoid creating sparks near battery. Always connect the Negative jumper cable to the frame of the vehicle with the discharged battery away from the battery.

When connecting jumper cables:

1. Stop the engine on the vehicle with a good battery.
2. Connect RED jumper cable to the Positive (+) terminal on the good battery and to the Positive (+) terminal on the discharged battery.
3. Connect the BLACK jumper cable from the Negative (-) terminal on the good battery to the frame of the vehicle with the discharged battery.

After cables have been connected start the engine on the vehicle with the good battery then start the vehicle with the discharged battery.

5.10 BATTERY

Make absolutely certain the ignition switch is OFF and the key has been removed before servicing the battery.

⚠ CAUTION

Always use insulated tools, wear protective glasses or goggles, and protective clothing when working with batteries. You must read and obey all battery manufacturer's instructions.

Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep vent caps and terminal covers in place.

Keep the top of the battery clean and free of corrosion by washing battery with a solution of baking soda and water. Rinse with clean water.

Verify battery polarity before connecting or disconnecting the battery cables.

1. When installing the battery, always assemble the Positive (RED) (+) battery cable first and the Negative (BLACK) (-) battery cable last.
2. When removing the battery, always remove the Negative (BLACK) (-) battery cable first and Positive (RED) (+) battery cable last.
3. Make sure battery is properly installed and secured to the battery tray.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling.**

5.11 CHARGING BATTERY

⚠ WARNING

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion keep any device that may create sparks or flames away from the battery.

To prevent injury stand away from battery when the charger is turned on. A damaged battery could explode.

1. Refer to **Section 5.10**. Read the Battery's and Charger's manuals for specific instructions.
2. Whenever possible remove the battery from the vehicle before charging. If battery is not sealed check that the electrolyte covers the plates in all the cells.

Battery cables must be disconnected before using a *fast charger* or damage to the alternator may result.

3. Make sure the charger is Off. Then connect the charger to the battery terminals as specified in the charger's manual.
4. Always turn the charger Off before disconnecting charger from the battery terminals.

5.12 HYDRAULIC HOSES

⚠ WARNING

To prevent serious injury from hot, high pressure oil never use your hands to check for oil leaks; use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

1. Always disengage all drives, engage parking brake, stop engine, and remove key before inspecting or disconnecting hydraulic lines or hoses.
2. Check visible hoses and tubes daily. Look for wet hoses or oil spots. Replace worn or damaged hoses and tubes before operating the machine.
3. The replacement tube or hoses must be routed in the same path as the existing hose. Do not move clamps, brackets, and ties to a new location.
4. Thoroughly inspect all tubes, hoses, and connections every 250 hours.

IMPORTANT: The hydraulic system can be permanently damaged if the oil becomes contaminated. Before disconnecting any hydraulic component clean the area around the fittings and the hose ends to keep impurities out of the system.

a. Before disconnecting any hydraulic component tag or mark the location of each hose then clean the area around the fittings.

b. As you disconnect the component be prepared to assemble plugs or caps to the hose ends and open ports. This will keep impurities out of the hydraulic system and also prevent oil spills.

c. Make sure O-rings are clean and hose fittings are properly seated before tightening.

d. Keep the hose from twisting. Twisted hoses can cause couplers to loosen as the hose flexes during operation resulting in oil leaks.

e. Kinked or twisted hoses can restrict the oil flow causing the system to malfunction, the oil to overheat and also lead to hose failure.

5.13 HYDRAULIC RESERVOIR AND FILTER

Refer to **Section 7.3** for specific maintenance intervals.

Normally the hydraulic system will not need additional fluid. Sometimes a leak may develop causing the system to require repair and refilling. If you notice hydraulic fluid escaping when the system is being used or if a leak is suspected **turn off all hydraulic functions and stop the engine**.

Periodically check the hydraulic fluid level (hydraulic level should be checked every **100 hours** of operation). Loss of fluid can signal a small leak before it becomes worse.

To check the fluid level:

1. Place vehicle on a flat and level surface. Fully lower any accessory attachment, including the dump box. Stop the vehicle engine.
2. Remove the dipstick/breather tube from the top of the tank. Wipe the dipstick then place in tank with the threaded flange resting on the tank (do not screw in). Fluid should show on the knurled portion of the dipstick. Add GreensCare 68™ fluid as required.

The hydraulic system is protected by one 10 micron filter. The filter is located under the side console near the parking brake lever.

To replace hydraulic oil filter:

1. Remove the old filter.
2. Fill new filter with GreensCare 68 fluid then install new filter. *Hand tighten only.*
3. Operate engine at idle speed with hydraulic system in Neutral for five minutes.
4. Check hydraulic oil level and fill with GreensCare 68 to knurled mark on gauge.

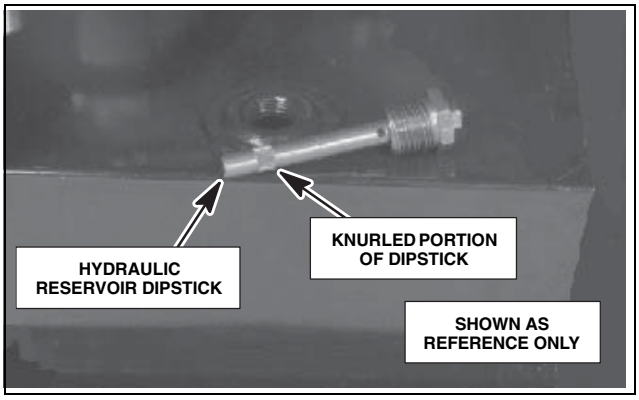


Figure 5E

5.14 FUEL

Handle fuel with care - it is highly flammable. Use an approved container. The spout must fit inside the fuel filler neck. *Do not use* cans and funnels to transfer fuel.

⚠ WARNING

Remove the fuel cap slowly. Fuel may be under pressure. Spray could cause serious injury.

Never remove the fuel cap from the fuel tank or add fuel when the engine is running or while the engine is hot.

Do not smoke when handling fuel. Never fill or drain the fuel tank indoors.

Do not spill fuel and clean spilled fuel immediately.

Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.

Be sure to reinstall and tighten fuel cap securely.

1. Fill the fuel tank to within 1 in. (25 mm) of the bottom of the filler neck.
2. Store fuel according to federal, state and local ordinances and recommendations from your fuel supplier.
3. Never overfill or allow the tank to become empty. Check fuel level in the tank by turning the ignition switch to the ON position and reading the level indicated by the fuel gauge.
4. Check fuel lines and clamps every 50 hours. Replace fuel lines and clamps at the first sign of damage.
5. The fuel tank capacity is 6.5 gal. (24.5 l). Fill tank using the following fuel recommendations:

   Diesel Engine

   a. Use clean, fresh, #2 Low or Ultra Low Sulfur Diesel fuel. Minimum Cetane rating 45. Refer to Engine Manual for additional information.

   b. Use clean, fresh, #1 Low or Ultra Low Sulfur Diesel fuel when operating temperature is below 20° F (-7° C). If #1D fuel is not available a winterized blend of #1D and #2D may be available. This blended fuel is usually called #2D and may be used in colder climates. Do not use #2D unless you are sure it has been ***winterized***. Cold temperatures may cause it to thicken which will keep your vehicle from running properly.

   c. **DO NOT** use Aviation Fuel JP4. Refer to Engine Manual for additional information.

   Gas Engine: Use clean, fresh Unleaded Gasoline with 87 octane or higher rating.

NOTICE

The use of any fuel containing greater than 10% ethanol may harm the engine's emission control system and therefore invalidate the emission-related warranty through the improper action of the operator.

5.15 FUEL SYSTEM

Refer to **Section 7.3** for specific maintenance intervals.

Before replacing any filter thoroughly clean the filter housing and the area around the filter. Dirt must not be allowed to enter into fuel system.

Turn the key switch to the ON position to start the fuel pump and bleed the fuel system if the fuel filter and lines have been removed or the fuel tank has become empty. See Engine Manual.

5.16 TIRE PRESSURE

Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.

Lower pressure will help avoid leaving tire marks in soft turf. Higher pressures may be required for heavier loads. Rear tire pressure must be set at 28 psi (1.93 BAR) when operating with a full load. *Never* exceed the maximum pressure indicated on the tire.

Check the pressure with an accurate, low pressure tire gauge. Due to the low volume of air needed over-inflation may be reached in a matter of two to three seconds.

Keep tires inflated to:

Front - 20 psi - (1.38 BAR)

Rear - Varies, determined by load. (See Chart)

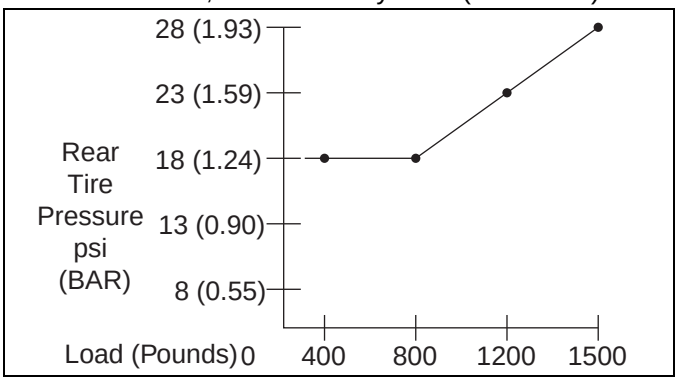


Figure 5F

5.17 TIRE REMOVAL AND INSTALLATION

Removal:

1. Park the vehicle on a flat and level surface. Apply parking brake, shut off engine, and shift transmission to 1st gear (manual) or Park (automatic).
2. Refer to **Section 5.18** for proper lifting procedures. Always use jack stands. Never rely only on a jack for support.

   Raise the vehicle only enough to remove the tire. Never place feet, hands, or any part of your body under the vehicle when raising it.
3. Remove the wheel retaining nuts and remove wheel and tire assembly from the hub.
4. Perform required service on tire.

⚠ CAUTION

Unless you have the proper training, tools, and experience, DO NOT attempt to mount a tire on a rim. Improper mounting can produce an explosion which may result in serious injury.

Installation:

1. Remove dirt, grease, and oil from stud thread. Do not lubricate threads.
2. Position wheel on hub and inspect to ensure full contact between mounting surface of wheel and hub or brake drum. Make sure valve stem is located towards the outside. Finger tighten all hardware then torque hardware in criss-cross order. Always tighten nuts in the top position.
3. Check and retorque daily until 70-100 ft lbs (95-140 Nm) torque is maintained.

5.18 RAISING THE VEHICLE

⚠ WARNING

Make sure the vehicle is parked on a solid and level surface. Never work on a vehicle that is supported only by a jack. Always use jack stands.

Whenever possible empty the truck bed before raising the vehicle. Loads moving inside the bed can cause an unbalanced load that could tip the vehicle.

Never raise the vehicle with the engine running or with a person sitting in the operator's seat.

Always block the tire diagonally opposite the tire being raised.

Never place hands, feet, or any part of your body under the vehicle when raising it with a hoist or if vehicle is not properly supported by jack stands.

A scissors type jack or a floor jack with a 1-1/2 ton (minimum) capacity that can be lowered to a height of 3-3/8 in. (86 mm) is required. Refer to **Figure 5G** for jacking locations.

Shift the transmission into 1st gear (manual) or Park (automatic) and apply the parking brake. Chock or block the tire diagonally opposite the side being raised. Raise the vehicle only enough to perform maintenance required.

Jack the vehicle to an appropriate height and place jack stands or equivalent support beneath the frame near the jack. Lower the jack and allow the vehicle to rest on jack stands. *Do not remove jack*.

When using a hoist to raise the vehicle use the same procedure for supporting the frame and blocking the tires as you would when using a jack.

To prevent damage to the vehicle or attached accessory never use a hoist to raise only one corner of the vehicle. Always raise BOTH front or rear corners equally.

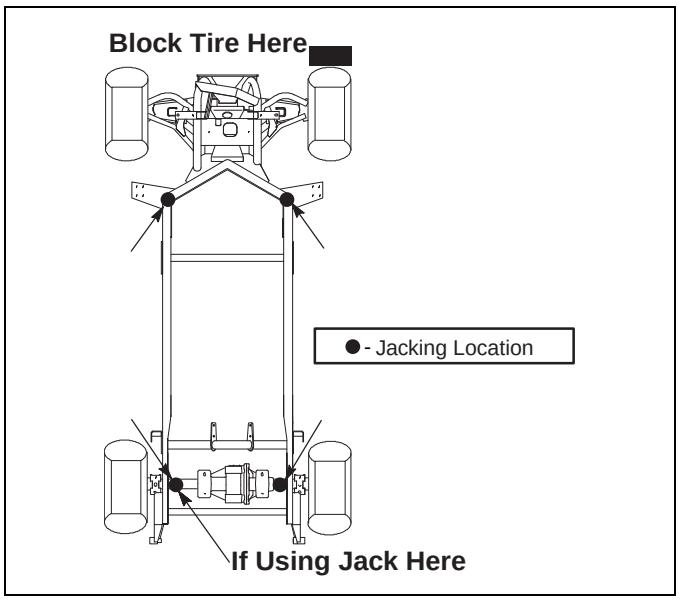


Figure 5G

5.19 TOWING THE VEHICLE

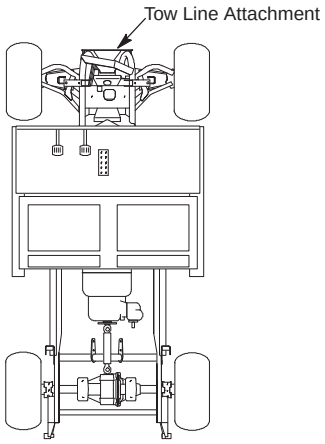
WARNING

To prevent injury or vehicle damage the following guidelines should always be followed.

- **Never** accelerate or stop suddenly when towing a vehicle.
- **Never** change the direction of the vehicle abruptly or make sharp turns on an incline when towing a vehicle.
- **Never** tow the vehicle faster than 5 mph (8 km/h). Towing at excessive speed could cause either vehicle to lose proper steering control.
- Adjust your speed for weather and surface conditions (rain, snow, ice, hills, etc.) when towing.
- Use care when loading or unloading machine onto a trailer or truck.

If for any reason the vehicle needs to be towed follow the procedures below:

1. If towing the vehicle with a tow-rope or chain an operator is required to steer the towed vehicle and to control the brakes.
2. Attach a tow-rope to the front vertical frame member on either side of the vehicle only.
3. Shift transmission into Neutral and release parking brake.
4. Slowly drive towing vehicle forward until tow-line is pulled tight.
5. While towing, try to keep the tow-line taught at all times. Be careful going down inclines and turning corners.



A Front Bumper Accessory (Part No. 894778) is available for use with the Truckster. If a Front Bumper is mounted to your vehicle, make sure to follow the instructions included with the bumper for proper connection of the chain or tow rope.

Figure 5H

5.20 GOVERNOR OIL LEVEL

Suzuki Gas Engine only.

Check the oil level in the governor every 100 hours of use. Check only when engine is cool. To check the level remove the plug from the back side of the governor. Oil level should be up to the level of the plug opening.

Governor Oil Capacity . . . . . .1.5 oz. (44 me)
Oil Type . . . . . .SAE 20W engine oil

If fluid level is low add the recommended oil type.

Remove the plug from the rear of the governor and remove the plug from the top of the governor. Add SAE 20W motor oil until the oil begins to leak from the rear port. Replace both plugs.

When replacing the plugs use Teflon® tape or a Permatex® 20 sealant (or equivalent pipe thread sealant) on the threads of the plug.

Torque the plugs to 95 ±10 in lb (10.7± 1 Nm).

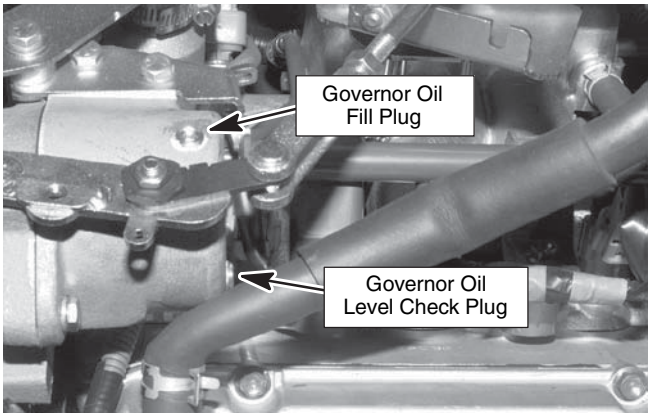


Figure 5I

5.21 HYDRAULIC BRAKES

⚠ WARNING

Improper maintenance of the brake system may result in loss of vehicle control by the operator. Losing control of the vehicle due to brake loss may cause injury to the operator or bystanders and vehicle damage.

This vehicle is equipped with four-wheel hydraulic brakes controlled by the brake pedal and a hand operated parking brake lever.

Keep your brake system clean and properly maintained. Do not operate the truck if the brakes do not stop vehicle properly.

The brake fluid master cylinder reservoir is located under the front cowl.

The fluid level in the master cylinder reservoir must be kept between the **MIN** (minimum) and **MAX** (maximum) marks. Add DOT 3 type brake fluid as necessary.

If the brake fluid indicator light comes on and remains on check the fluid level in the reservoir.

Bleeding Hydraulic Brakes:

If the brakes do not hold properly, if they feel spongy, or if the brake fluid reservoir is allowed to run dry it may be required to bleed the system in order to remove air from the brake lines.

1. Bleed the brakes in the following order: Left Rear, Right Rear, Right Front and Left Front.
2. Attach a hose to the bleeder screw and place the other end of the hose in a container to catch fluid from brake when bleeding the system.
3. Bleed brake.
   a. Have an assistant push down on the brake pedal and hold the pedal down.
   b. Loosen the bleeder screw allowing fluid to flow.
   c. Tighten the bleeder screw.
   d. Have assistant release pedal.

   NOTE: ***Do Not*** *release brake pedal until the bleeder screw is tightened or air will be sucked back into the brake lines.*

   e. Repeat **Steps a** through **d** as required until all air bubbles are purged from the system and a steady flow of fluid comes from the brake line.
   f. Periodically check fluid level in reservoir. Do not allow the reservoir to fully empty or bleeding procedure will need to be repeated.
4. Repeat **Step 3** for each brake.
5. Most communities have a disposal system for **DOT 3** brake fluid. Please dispose of fluids properly.

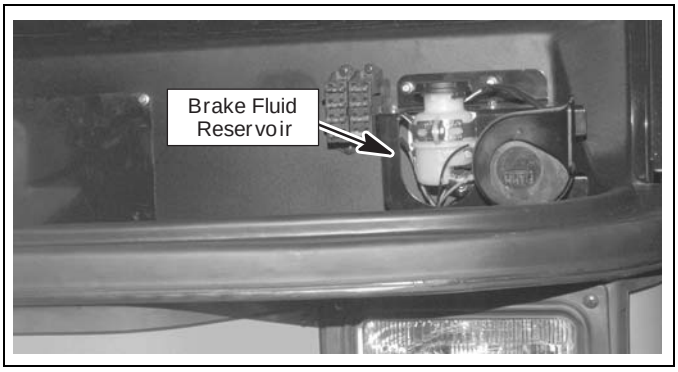


Figure 5J

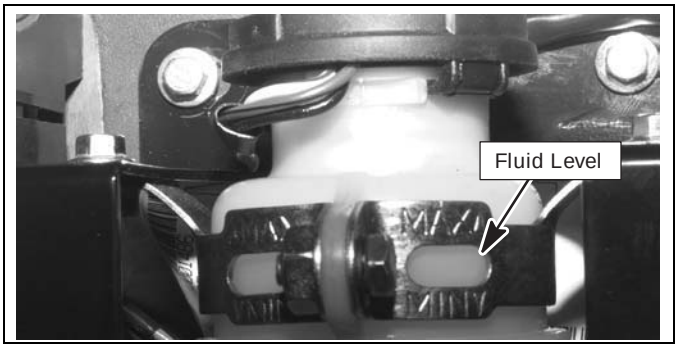


Figure 5K

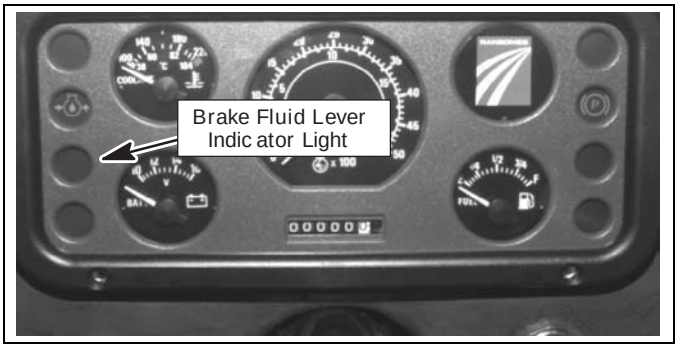


Figure 5L

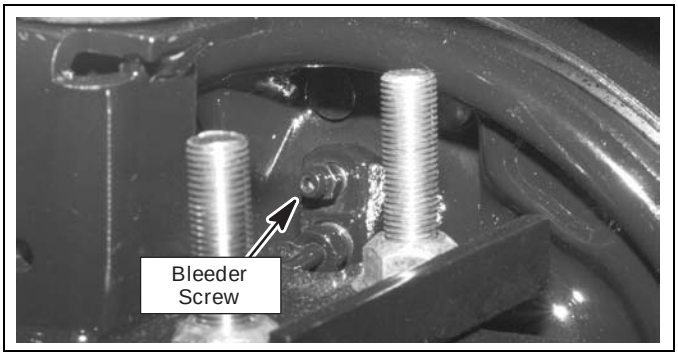


Figure 5M

5.22 DIFFERENTIAL FLUID

The differential fluid should be checked every 100 hours or 3 months. Fluid should be changed after the first 100 hours and every 600 hours (or yearly) thereafter.

Differential Fluid Capacity .....3 qts (2.84 l)
Fluid Type .....SAE EP 80-90 gear lube

To check differential fluid level remove the filler plug from the front of the differential. Fluid should be level with the bottom of filler hole.

If fluid is low add gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

To change differential fluid remove drain plug from rear of differential.

Allow fluid to drain into a suitable container. Dispose of used fluid properly according to federal, state, and local regulations.

Apply pipe thread sealer to drain plug and install.

Fill differential with gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

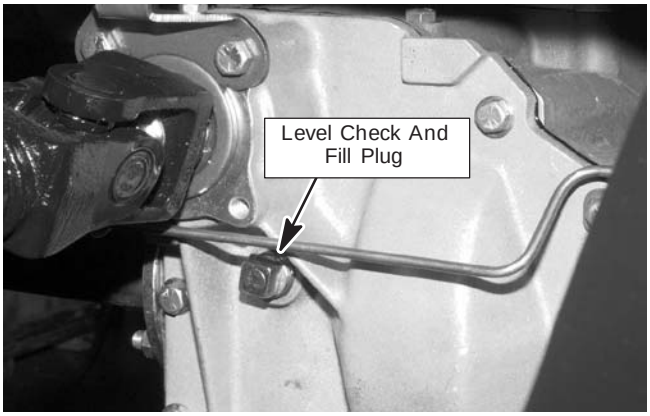


Figure 5N

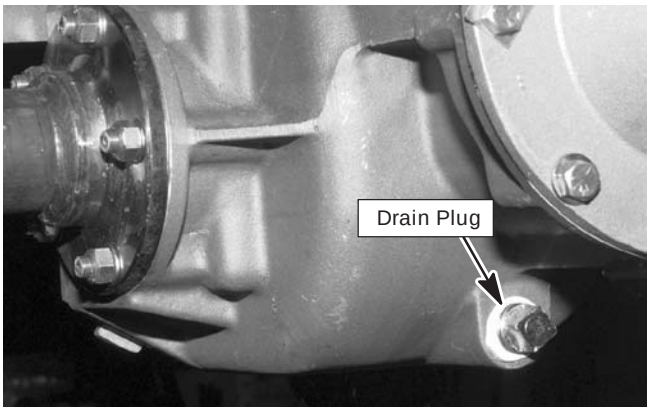


Figure 5O

5.23 DIESEL ENGINE MANUAL TRANSMISSION

The transmission fluid should be checked every 100 hours or 3 months. Fluid should be changed every 600 hours (or yearly).

Transmission Fluid Capacity ..1.35 qts (1.28 l)
Fluid Type .....SAE EP 80-90 gear lube

To check transmission fluid level remove the filler plug from the front of the transmission. Fluid should be level with the bottom of filler hole.

If fluid is low add gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

To change fluid remove drain plug from rear of transmission.

Allow fluid to drain into a suitable container. Dispose of used fluid properly according to federal, state, and local regulations.

Apply pipe thread sealer to drain plug and install.

Fill transmission with gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

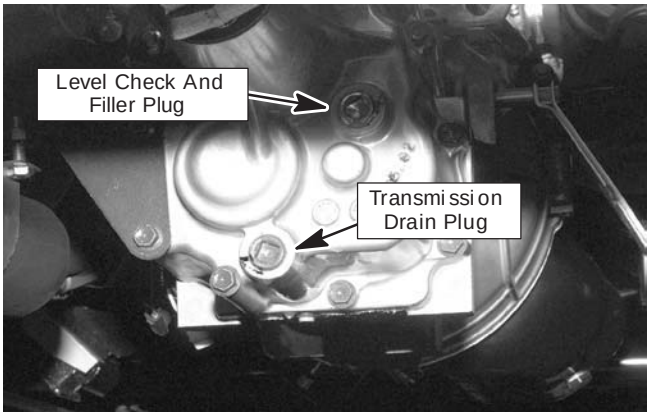


Figure 5P

5.24 GAS ENGINE MANUAL TRANSMISSION

The transmission fluid should be checked every 100 hours or 3 months. Fluid should be changed every 600 hours (or yearly).

Transmission Fluid Capacity .. 1.1 qts (1 l)
Fluid Type ..... SAE EP 80-90 gear lube

To check transmission fluid level remove the filler plug from the front of the transmission. Fluid should be level with the bottom of filler hole.

If fluid is low add gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

To change fluid remove drain plug from rear of transmission.

Allow fluid to drain into a suitable container. Dispose of used fluid properly according to federal, state, and local regulations.

Apply pipe thread sealer to drain plug and install.

Fill transmission with gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug

Fill transmission with gear lube until fluid begins to leak from hole. Apply pipe thread sealant and install filler plug.

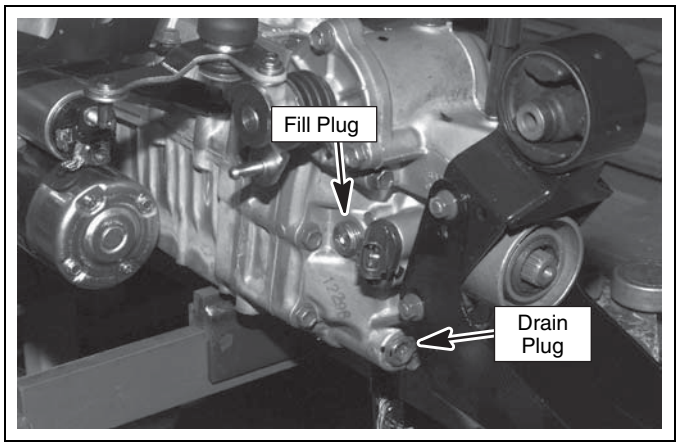


Figure 5Q

5.25 GAS ENGINE AUTOMATIC TRANSMISSION

The transmission fluid should be checked every 100 hours or 3 months. Fluid should be changed every 600 hours (or yearly).

Transmission Fluid Capacity .. 3.8 qts (3.6 l)
Fluid Type ..... Mercon/Dextron II

To check transmission fluid level the engine must be running. Place the gear selector in Park (P), apply the parking brake and start the engine.

With engine running remove the dipstick and wipe it with a clean rag. Insert the dipstick into the extension tube until it contacts the tube. Remove the dipstick and read the fluid level.

Fluid must be kept between the two marks on the dipstick. If fluid is low add fluid to obtain the proper level. ***Do Not Overfill.*** Add fluid using the extension tube as a fill tube.

To change fluid remove drain plug from bottom of transmission.

Allow fluid to drain into a suitable container. Dispose of used fluid properly according to federal, state, and local regulations.

Apply pipe thread sealer to drain plug and install.

Fill transmission until fluid reaches proper mark on dipstick.

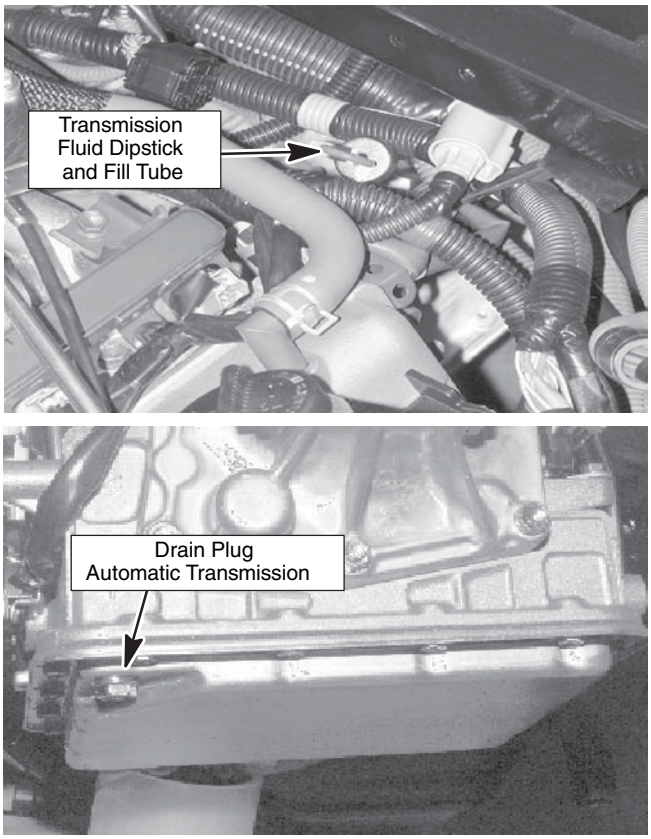


Figure 5R

5.26 ELECTRICAL SYSTEM

⚠ CAUTION

Always turn the ignition switch to the OFF position and remove the Negative (BLACK) battery cable before inspecting or working on the electrical system.

General precautions that can be taken to reduce electrical problems are listed below:

1. Ensure all terminals and connections are clean and properly secured.
2. Check the Interlock System and fuses regularly.

   If the Interlock System does not function properly and the problem cannot be corrected contact an authorized Jacobson Dealer.
3. Keep the wire harness and all individual wires away from moving parts to prevent damage.
4. Check the battery and battery charging circuit.
5. Do not wash or pressure spray around electrical connections and components.
6. Circuits are protected by fuses located under the front cowl and a fuse located near the cooling fan.

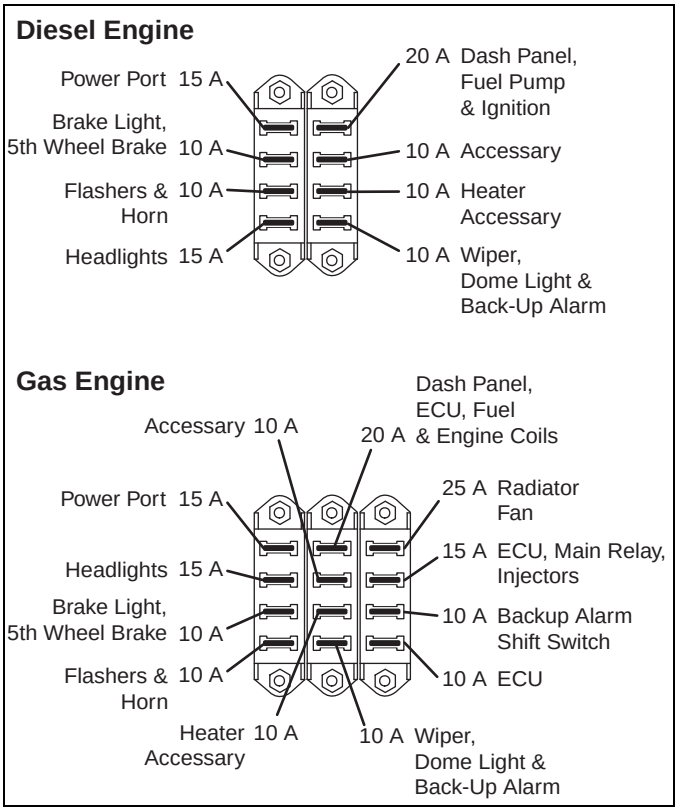

Diesel Engine
Power Port 15 A
Brake Light, 5th Wheel Brake 10 A
Flashers & Horn 10 A
Headlights 15 A
20 A Dash Panel, Fuel Pump & Ignition
10 A Accessary
10 A Heater Accessary
10 A Wiper, Dome Light & Back-Up Alarm
Gas Engine
Accessary 10 A
20 A Dash Panel, ECU, Fuel & Engine Coils
Power Port 15 A
Headlights 15 A
Brake Light, 5th Wheel Brake 10 A
Flashers & Horn 10 A
Heater Accessary 10 A
25 A Radiator Fan
15 A ECU, Main Relay, Injectors
10 A Backup Alarm Shift Switch
10 A ECU
10 A Wiper, Dome Light & Back-Up Alarm

Figure 5S

5.27 DASH PANEL

The dash panel contains gauges and instrument lights to display unit functions. Maintenance of the panel is limited to replacing bulbs and setting the DIP switches.

Remove the four screws securing the instrument panel to the dash.

Pull panel out, tilt panel forward and disconnect electrical connector for easier access to rear of panel.

Light Bulb Replacement:

1. Determine which bulb needs to be replaced.
2. Rotate bulb holder 1/4 turn counter-clockwise and pull up and away from dash panel.
3. Replace old bulb with a new bulb of equal type.

Location	Replacement Bulb
A Voltmeter	C658
B Temperature Gauge	C658
C Fuel Gage	C658
D Hour Meter	C658
E Tachometer	C161
F Left Turn Signal	C161
G Oil Pressure	C161
H Glow Plug	C161
J Brake Fluid	C161
K Right Turn	C161
L Parking Brake	C161
M High Beam	C658
N Alternator / Battery	C161

4. Place bulb and holder back into panel. Turn holder 1/4 turn clockwise to secure into panel. Ensure base of holder is properly seated in panel.

Tachometer DIP Switch Setting:

The dash panel uses a DIP Switch sequence code to identify the number of input pulses per engine revolution and engine type to correctly display the engine RPM on the tachometer.

If you are replacing the dash panel or if the tachometer is not operating correctly check to be sure the sequence code is set correctly.

The Truckster with a Kubota Diesel engine uses the following sequence code for 10.5 pulses / revolution.

Kubota Diesel Sequence Code: 0 0 0 1 0 1 0 0

The Truckster with a Suzuki Gas engine uses the following sequence code for 1.5 pulses / revolution.

Suzuki Gas Sequence Code: 0 0 0 0 0 0 1 0

Using a small blade screwdriver or similar tool push the switch levers either up or down to match the sequence code for this unit.

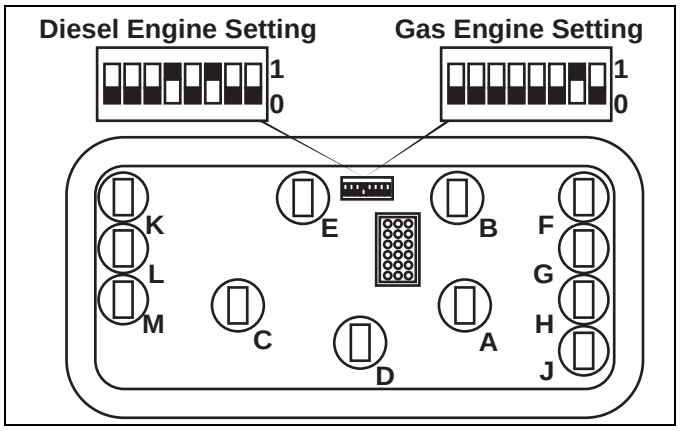


Figure 5T

5.28 HEADLIGHT REPLACEMENT

The headlight should be replaced as soon as it stops functioning or is damaged. The headlight is a sealed unit and can only be replaced as a complete unit.

Description	bulb type	Jacobson Part No.
Headlight	H6545	837303

1. Disconnect the Negative (BLACK) battery cable.
2. Remove the four screws securing the headlight bezel to the front cowl.
3. Pull headlight and bezel forward and out of the front clip opening.
4. Disconnect the electrical connector from the rear of the headlight.
5. Remove the headlight from the bezel. Properly dispose of old bulb.
6. Install new headlight in reverse order of removal.

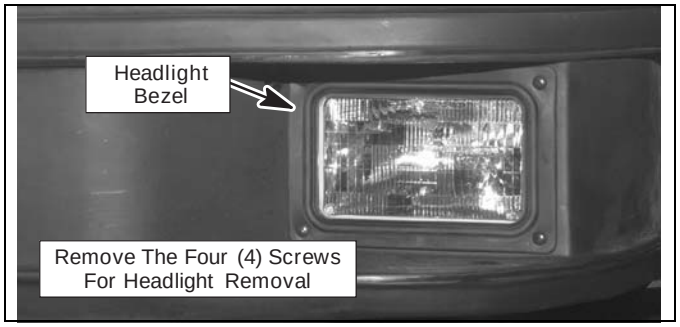


Figure 5U

5.29 TAIL LIGHT REPLACEMENT

The tail light should be repaired as soon as it stops functioning or is damaged. The tail light bulb and lens are replaceable components. Damage to the body of the tail light requires a complete replacement.

Description	bulb type	Jacobson Part No.
Tail light bulb	1157	822049

1. Remove the two screws securing lens. Remove lens and gasket.
2. Push bulb in, turn 1/4 turn and remove bulb. Dispose of old bulb properly.
3. Install new bulb in reverse order of removal. Ensure lens gasket is properly positioned.
4. To remove complete tail light assembly remove two nuts and shake proof washer securing tail light to frame. Disconnect harness and remove tail light from frame.

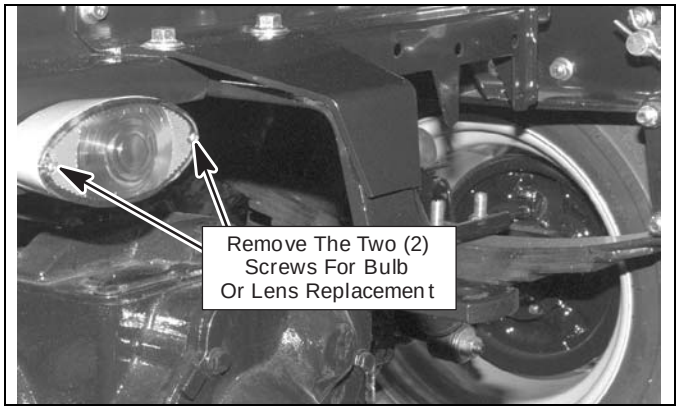


Figure 5V

5.30 EFI DIAGNOSTIC CHECK

Suzuki Gas Engine units only

The electrical system is equipped with an OBD-II diagnostic connector.

Manual transmission: Engage parking brake, shift transmission to Neutral, and turn the ignition switch to the OFF position.

Automatic Transmission: Engage parking brake, place gear selector in Park, and turn the ignition switch to the OFF position.

Open the front cowl and locate the OBD-II connector on the brake fluid reservoir bracket. Plug an OBD-II reader into the connector, turn ignition switch to the ON position (do not start engine), and refer to the instructions included with the reader to retrieve diagnostic codes.

Refer to the Truckster Technical Repair Manual for code descriptions.

5.31 CARE AND CLEANING

Wash the vehicle after each use. Keep the equipment clean.

Note: *Do not wash any portion of the equipment while it is hot. Do not use high pressure spray or steam. Use cold water and automotive cleaners.*

1. Use compressed air to clean engine and radiator fins. A special blow gun is available through Cushman Dealer.
2. Use only fresh water for cleaning your equipment.

Note: *Use of salt water or affluent water has been known to encourage rust and corrosion of metal parts resulting in premature deterioration or failure. Damage of this nature is not covered by the factory warranty.*

3. Do not spray water directly at the dash panel, ignition switch, controls, or any other electrical components, or at bearing housings and seals.
4. Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.

Repair damaged metal surfaces and use touch-up paint. Wax the equipment for maximum paint protection.

⚠ CAUTION

Clean grass and debris from drives, muffler, and engine to prevent fires.

5.32 STORAGE

General

1. Wash the vehicle thoroughly and lubricate as necessary. Repair and paint damaged or exposed metal.
2. Inspect the vehicle, tighten all hardware, replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the vehicle so the load is off the tires. If vehicle is not on jack stands check tires at regular intervals and reinflate as necessary.
5. Keep the machine and all its accessories clean, dry and protected from the elements during storage.

⚠ WARNING

Never store equipment near an open flame or spark which could ignite fuel or fuel vapors.

Battery

1. Remove, clean and store battery in upright position on a nonconductive surface (wood) in a cool, dry place. To prevent accelerated discharge do not store battery on concrete or steel surface.
2. Check and recharge battery every 60 to 90 days while in storage.
3. To reduce the self discharge rate room temperature should not rise above 80°F (27°C). Room temperature should not fall below 20°F (-7°C) to prevent electrolyte from freezing.

Engine (General)

1. While the engine is warm remove the drain plug, drain the oil from the crankcase, and change oil filter. Install drain plug and refill with fresh oil. Let engine cool before storing.
2. Clean exterior of engine. Paint exposed metal or apply a light coat of rust preventative oil.

Add a fuel conditioner or biocide to prevent gelling or bacterial growth in fuel. See your local fuel supplier.

If storing indoors drain fuel from tank.

Close fuel shut off valve.

After Storage

1. Check and reinstall battery.
2. Check or service fuel filter and air cleaner.
3. Check the radiator coolant level.
4. Check oil level in the engine crankcase.
5. Fill the fuel tank with fresh fuel. Open fuel shut off valve and bleed the fuel system.
6. Make certain that the tires are properly inflated.
7. Start and operate the engine at 1/2 throttle. Allow sufficient time for the engine to become properly warmed and lubricated.

⚠ WARNING

Never operate the engine without proper ventilation. Exhaust fumes can be fatal when inhaled.

6.1 GENERAL

The troubleshooting chart below lists basic problems that may occur during start up and operation. For more detailed information regarding the electrical system contact your area Jacobson Dealer.

Symptoms	Possible Causes	Action
Engine will not start.	1. Clutch pedal not depressed.	1. Check start up procedure.
	2. Battery low on charge or defective.	2. Inspect condition of battery and battery connections.
	3. Fuel tank empty or dirty. Fuel shut off valve closed.	3. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. Open fuel shut off valve.
	4. Fuse blown.	4. Replace fuse.
Engine hard to start or runs poorly.	1. Fuel level low. Fuel or fuel filter dirty.	1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.
	2. Air cleaner dirty.	2. Inspect and replace air filter.
	3. Injectors, fuel pump.	3. Consult engine manual.
	4. Engine problem.	4. Consult engine manual.
Engine stops.	1. Fuel tank empty.	1. Fill with fresh fuel and bleed fuel lines.
Engine overheating.	1. Coolant level low.	1. Inspect and add coolant.
	2. Air intake restricted.	2. Clean cooling air intake.
	3. Water pump belt broken or loose.	3. Replace or tighten belt.
	4. Engine overload.	4. Reduce forward speed.
Vehicle does not react to throttle pedal.	1. Parking brake engaged.	Disengage parking brake.
	2. Transmission in Neutral.	Depress brake and clutch pedals. Shift to proper gear for desired ground speed. Release brake pedal. Slowly let out clutch while pressing the throttle pedal.
	3. Clutch Pedal Depressed.	Slowly let out clutch pedal.

7 MAINTENANCE & LUBRICATION CHARTS

7.1 GENERAL

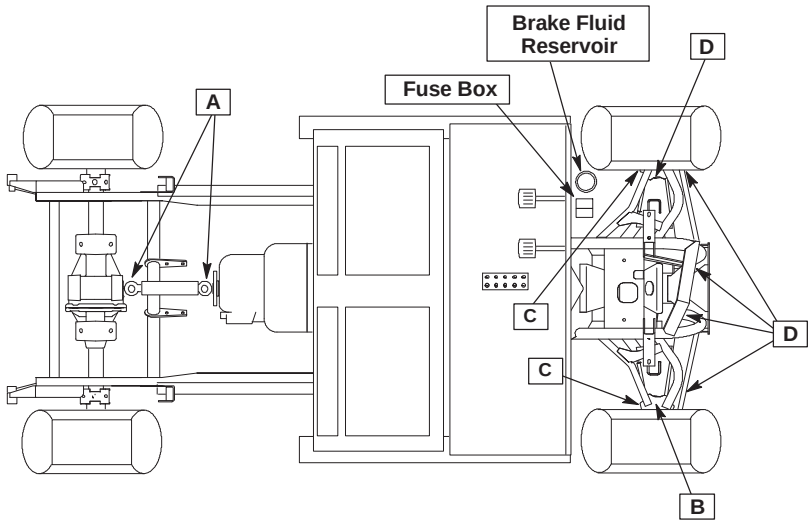
WARNING

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries

1. Always clean the grease fitting before and after lubricating.
2. Lubricate with grease that meets or exceeds NLGI Grade 2 LB specifications. Apply grease with a manual grease gun and fill slowly until grease begins to seep out. *Do not use compressed air guns*.
3. For smooth operation of all levers, pivot points and other friction points that are not shown on the lubrication chart apply several drops of SAE 30 oil every 40 hours or as necessary.
4. Grease fittings every 100 hours. Do not over grease drive shaft fittings **(A)**. Too much grease will damage the seals.

7.2 LUBRICATION CHART

Fitting	Description	Qty
A	Drive Shaft	2
B	Upper Ball Joints	2
C	Lower Ball Joints	2
D	Tie Rod Ends	4



7.3 MAINTENANCE CHARTS

Recommended Service and Lubrication Intervals

	Daily	First 35 Hours	**Every 75** Hours or 2 Months	**Every 100** Hours or 3 Months	**Every 200** Hours or 6 Months	Every 400 Hours or 9 Months	**Every 600** Hours or 12 Months	**See Section**	**Lubricant** Type
Air Filter					R**			5.8	
Alternator							I		
Battery			I				C	5.10	
Belts	I-A*			I-A			I-A	4., 4.2	
Brake Fluid				I-A				5.21	VI
Brake Linings		I-A*		I-A			I-A		
Clutch				I-A					
Cooling System	I-C-A				I	R		5.7	IV
Differential Fluid				I-R*			R	5.22	III
Electrical System		I*		I				5.26	
Engine Glow Plugs							I		
Engine Idle Speed		I*					I		
Engine Noise / Vibration	I								
Engine Oil (Suzuki)	I	R*****		R**				5.3	
Engine Oil Filter (Suzuki)	I	R*****		R**				5.3	
Engine Oil (Kubota)	I	R*	R**					5.3	II
Engine Oil Filter (Kubota)	I	R*	R**					5.3	
Engine Valve Clearance		I****				I****			
Fluid Leaks	I-R								
Fuel System		I*					I	5.15	
Fuel Filter				R				5.15	
Fuel Water Separator (Diesel Only)	I-C								
Governor Fluid				I-A					IX
Hydraulic Filter							R		
Hydraulic Fluid				I-A			R		VIII
Injection Pump / Timing							I		
Lubricate Chassis				L			L	7.2	I
Muffler and Exhaust	I			I				5.5	
Radiator Screens	I-C/AR							5.7	
Power Steering Fluid		I*		I				5.4	V
Spark Plugs (Gas only)							C-A-R		
Starter Motor Brushes							I		
Tires	I	I-A						5.16	
Transmission Fluid (Manual Transmission)				I			R	5.23 5.24	III
Transmission Fluid (Automatic Transmission)				I			R	5.25	VII
Wheel Bearings							Repack		

A - Add or Adjust C - Clean I - Inspect L- Lubricate R - Repair or Replace AR - As Required

7 MAINTENANCE & LUBRICATION CHARTS

Notes:

* Indicates initial service for new machines.

** Engine oil, oil filter and air filter may require more frequent replacement depending on operating conditions.

*** Inspect visible hoses and tubes for leaks or oil marks.

**** Must be done at Authorized Dealer.

***** Change oil and filter on Suzuki Engines after first fifty hours.

Lubricants

I Manual grease gun with NLGI Grade 2 (Service Class LB).

II Engine Oil - See **Section 5.3**

III SAE EP 80-90 gear lube

IV Capacity: 3qt. (2.8 l) 50/50 water ethylene glycol mix

V GM Power Steering Fluid

VI DOT 3 brake fluid

VII Mercon/Dextron II automatic transmission fluid

VIII GreensCare 68 hydraulic fluid

5003102 55-gallon drum GreensCare 68

5003103 5-gallon pail GreensCare 68

IX SAE 20W oil

7.4 COMMON REPLACEMENT PARTS

Part Number	Part Description
5000919	Diesel Air Filter Element
840352	Gas Air Filter Element
4113986	Diesel Oil Filter
2701809	Gas Oil Filter
4183591	Diesel Fuel Filter
2701898	Gas Fuel Filter
4175560	Diesel Alternator Belt
4117092	Diesel Hydraulic Pump Belt

Part Number	Part Description
4140919	Gas Water Pump Belt
4139265	Gas Alternator - Power Steering Belt
4139351	Gas Hydraulic Pump Belt
4119606	NGK 3932 (DCPR7E) Spark Plug
2701832	Denso XU22EPR-U Spark Plug

7.5 KUBOTA DIESEL ENGINE SERVICE PARTS

The following common engine parts are provided for reference only. Refer to the Engine Parts Manual for a complete list of service parts.

Part Number	Part Description
2811021	Fuel Solenoid
5000894	Injection Pump
5000901	Injection Pipe #1
5000902	Injection Pipe #2
5000903	Injection Pipe #3
4183586	Fuel Injector
5001265	Injector Return Pipe
4177227	Glow Plug
556412	Thermostat
4134370	Thermostat Gasket
4165525	Water Pump
557867	Water Pump Gasket
4177260	Oil Pan Drain Plug
2500811	Oil Pan Drain Plug Gasket
4113986	Oil Filter
4145944	Oil Fill Cap

Part Number	Part Description
2809955	Oil Fill Cap Seal
2500856	Valve Cover Gasket
557888	Starter Motor
4183623	Alternator

9 PARTS CATALOG

9.1 HOW TO USE THE PARTS CATALOG

Abbreviations

N/S - Not serviced separately. Can only be obtained by ordering main component or kit.

AR -Variable quantity or measurement is required to obtain correct adjustment.

Symbols such as ● next to the item number indicates that a note exists which contains additional information important in ordering that part.

Indented Items

Indented items indicate component parts that are included as part of an assembly or another component. These parts can be ordered separately or as part of the main component.

Item	Part No.	Qty	Description	Serial Numbers/Notes
● 1	123456	1	Mount, Valve	*Indicates a piece part*
2	789012	1	Valve, Lift	*Includes Items 2, and 3*
3	345678	1	• Handle	*Serviced part included with Item 2*
4	N/S	1	• Seal Kit	*Non serviced part included with Item 2*
5	901234	1	Screw, 1/4-20 x 2” Hex Head	

9.2 TO ORDER PARTS

1. Write your **full** name and **complete** address on the order.
2. Explain where and how to make shipment.
3. Give product number, name and serial number that is stamped on the name plate or serial plate of your product.
4. Order by the quantity desired, the part number and description of the part as given in the parts list.
5. Send or bring the order to an authorized Jacobsen Distributor.
6. Inspect all shipments on receipt. If any parts are damaged or missing file a claim with the carrier before accepting.
7. Do not return material without a letter of explanation listing the parts being returned. Transportation charges must be prepaid.

Use of other than Jacobsen authorized parts will void the warranty.

INTRODUÇÃO

Este manual contém instruções de segurança, funcionamento, ajuste, manutenção, resolução de problemas e lista de peças para a sua nova máquina Cushman. Este manual deve ser guardado com o equipamento, para consulta durante o funcionamento.

Antes de trabalhar com a máquina de cortar relva, o proprietário e cada operador devem ler o manual cuidadosamente por inteiro. Seguindo as instruções de segurança, funcionamento e manutenção, prolongará a longevidade do equipamento e manterá a sua máxima eficácia.

Se for necessária informação adicional, contacte o seu vendedor Cushman.

A chapa com o número de série está localizada na calha do chassis por baixo do volante. Cushman recomenda que tome nota desses números abaixo para facilitar a referência.

Sugestão para stock de peças

Para manter o seu equipamento inteiramente operacional e a dar bom rendimento, a Jacobsen sugere a manutenção de um stock com os materiais de manutenção mais vulgarmente usados. Incluímos números de peças para materiais adicionais de apoio e ajudas para treino.

Para encomendar qualquer do material seguinte:

1. Escreva o seu nome e endereço completos na sua nota da encomenda.
2. Descreva onde e como deve ser feito o embarque:
   - ❑ UPS
   - ❑ Correio normal
   - ❑ Correio azul
   - ❑ 2º dia
3. Encomende as quantidades pretendidas, pelo número e pela descrição da peça.
4. Envie ou entregue o pedido ao seu vendedor autorizado Jacobsen.

Peças de assistência técnica

Qt.	Peça	Descrição	Qt.	Peça	Descrição
	4113986	Filtro de óleo de motor Diesel		2701908	Filtro de óleo de motor a gasolina
	550489	Elemento do filtro de gasóleo		2701898	Filtro de gasolina
	4175560	Correia da direcção assistida - alternador do motor Diesel		4139265	Correia da direcção assistida - alternador do motor a gasolina
	4117092	Correia da bomba hidráulica do motor Diesel		4235370	Ccorreia da bomba hidráulica - Controlador de velocidade do motor a gasolina
	5000919	Elemento do filtro de ar de motor Diesel		840352	Elemento do filtro de ar do motor a gasolina
				885249	Elemento do filtro do óleo hidráulico

Material de apoio de serviço

Qt.	Peça	Material para apoio da assistência
	4241725	Manual de Segurança e Funcionamento
	4241724	Peças e Manutenção
	4160162	Manual de Peças do Motor Kubota D1105
	4241728	Manual de Peças do Motor Suzuki K6A

Qt.	Peça	Descrição
	4171642	Manual de Assistência do Veículo MT
	4171675	Manual de Assistência do Veículo AT
	4171985	Manual de Assistência de Suzuki K6A
	4239442	Manual de acessórios

2006/42/EC
A seguir são apresentadas as traduções das instruções originais verificadas pela ACMTRAD SL.

© Copyright 2011, Jacobsen, A Textron Company. "Reservados todos os direitos, incluindo o de reprodução deste livro ou de partes suas"

Aviso - Proposta 65

Este produto contém ou emite produtos químicos reconhecidos pelo Estado da Califórnia por provocarem cancro e anomalias de nascença ou outros perigos a nível da gestação.

Litho nos EUA 1-2011

Índice

1 SEGURANÇA
1.1 Segurança no funcionamento 4
1.2 Importantes instruções de segurança 5

2 NÚMEROS DE IDENTIFICAÇÃO DO VEÍCULO
2.1 Número de identificação do veículo 6
2.2 Números de identificação do motor 6

3 ESPECIFICAÇÕES
3.1 Identificação do produto 7
3.2 Motor a Diesel 7
3.3 Motor a Gasolina 7
3.4 Veículo 8
3.5 Relações de transmissão 8
3.6 Pesos e dimensões 8
3.7 Acessórios e literatura de apoio 9
3.8 Declaração de Conformidade 10

4 AFINAÇÕES
4.1 Generalidades 12
4.2 Acesso ao motor 12
4.3 Acesso ao painel dianteiro 13
4.4 Painéis de acesso 13
4.5 Correia do alternador do motor a diesel 14
4.6 Correia da bomba hidráulica do motor a diesel 14
4.7 Correia da direcção assistida – alternador do motor a gasolina 14
4.8 Correia da bomba hidráulica do motor a gasolina 15
4.9 Cabo do travão de estacionamento 15
4.10 Binário 16

5 MANUTENÇÃO
5.1 Generalidades 17
5.2 Motor 17
5.3 Óleo de motor 18
5.4 Reservatório da direcção assistida 19
5.5 Tubo e panela de escape 19
5.6 Procedimento no sobreaquecimento do motor 19
5.7 Sistema de arrefecimento 20
5.8 Filtro do ar 21
5.9 Arranque induzido 21
5.10 Bateria 22
5.11 Carregar a bateria 22
5.12 Mangueiras hidráulicas 23
5.13 Reservatório hidráulico e filtro 23
5.14 Combustível 24
5.15 Sistema de combustível 24
5.16 Pressão dos pneus 25
5.17 Remoção/instalação dos pneus 25
5.18 Elevar o veículo. 26
5.19 Rebocar o veículo 27
5.20 Nível do óleo do controlador de velocidade 27
5.21 Travões hidráulicos 28
5.22 Fluido do diferencial 29
5.23 Transmissão manual do motor a diesel 29
5.24 Transmissão manual do motor a gasolina 30
5.25 Transmissão automática do motor a gasolina 30
5.26 Sistema eléctrico 31
5.27 Painel de instrumentos 31
5.28 Substituição do farolim dianteiro 32
5.29 Substituição da lâmpada de luz de presença traseira 32
5.30 Verificação do diagnóstico efi 33
5.31 Cuidados e limpeza 33
5.32 Armazenamento 34

6 REPARAÇÃO DE AVARIAS
6.1 Generalidades 35

7 TABELAS DE MANUTENÇÃO E LUBRIFICAÇÃO
7.1 Generalidades 36
7.2 tabela de lubrificação 36
7.3 Tabela de manutenção 37
7.4 peças de substituição frequente 38
7.5 Peças para assistência de motores diesel Kubota 38

8 NOTAS

9 CATÁLOGO DE PEÇAS
9.1 Como usar o catálogo de peças 40
9.2 Para encomendar peças 40

1 SEGURANÇA

1.1 SEGURANÇA NO FUNCIONAMENTO

⚠ ATENÇÃO

ESTE VEÍCULO PODE SER PERIGOSO SE FOR COMANDADO INCORRECTAMENTE OU POR PESSOAL NÃO TREINADO.

Familiarize-se com a localização e a utilização adequada de todos os comandos. Operadores sem experiência devem receber instrução de alguém conhecedor do veículo antes de começar a trabalhar com o veículo.

1. A segurança depende da atenção, do cuidado e da prudência de quem trabalhar com o veículo ou lhe prestar assistência. Menores não devem ser autorizados a comandar o veículo.
2. É da responsabilidade do utilizador ler este manual e todas as publicações associadas a este veículo (Manual de Segurança e de Funcionamento, Manual do Motor, acessórios e equipamentos). Se o operador não souber Inglês, o proprietário é responsável pela explicação do conteúdo deste manual.
3. Aprenda a trabalhar correctamente com o veículo, a localização e finalidade de todos os comandos e indicadores antes de trabalhar com o veículo. O trabalho com veículos desconhecidos pode provocar acidentes.
4. Nunca deixe ninguém trabalhar ou prestar assistência à máquina ou aos seus equipamentos sem formação nem instruções adequadas, ou sob a influência de álcool ou estupefacientes.
5. Use sempre o vestuário e os dispositivos de protecção pessoal necessários à protecção da cabeça, dos olhos, dos ouvidos, das mãos e dos pés. Trabalhe com o veículo só durante o dia ou com boa luz artificial.
6. Inspeccione o terreno para determinar que acessórios e equipamentos são necessários para trabalhar correctamente e com segurança. Use apenas acessórios e equipamentos aprovados por Jacobsen.
7. Tenha atenção a buracos no terreno e a outras irregularidades ocultas.
8. Inspeccione a área onde o veículo vai ser usado. Apanhe pedras e outros objectos que encontrar antes de começar a trabalhar. Tenha atenção a obstáculos aéreos (ramos de árvores, fios eléctricos, etc.) e também a obstáculos subterrâneos (aspersores, tubos, raízes, etc.). Entre com cuidado numa área nova e esteja atento a riscos ocultos.
9. Nunca descarregue material para onde houver pessoas, nem deixe que haja pessoas perto do veículo em funcionamento. O proprietário/operador deve evitar ferimentos e danos materiais, pelos quais é responsável.
10. Não transporte passageiros e mantenha pessoas e animais a distância segura.
11. Nunca trabalhe com veículos que não estejam em perfeitas condições ou sem sinalética, resguardos, chapas, deflectores ou outros dispositivos de protecção seguramente montados no lugar.
12. Nunca desligue interruptores nem faça pontes.
13. Não altere a afinação do regulador do motor nem acelere excessivamente.
14. O monóxido de carbono dos gases de escape pode ser fatal se inalado. Nunca tenha o motor ligado sem ventilação correcta ou num recinto fechado.
15. O combustível é altamente inflamável; manuseie-o com cuidado.
16. Mantenha o motor limpo. Deixe o motor arrefecer antes de guardar o veículo e retire sempre a chave da ignição.
17. Coloque a caixa de velocidades em ponto-morto, pressione a embraiagem e active o travão de estacionamento antes de ligar o motor. Ligue o motor só depois de estar sentado e nunca de pé, ao lado do veículo.
18. O veículo tem de estar em conformidade com as mais recentes determinações legais ao ser conduzido ou transportado na via pública. Atenção ao trânsito ao atravessar estradas ou ao trabalhar em estradas ou ruas ou na sua proximidade.
19. Leis locais podem limitar a idade do operador.
20. Em taludes, trabalhe para cima e para baixo (transversalmente) e nunca ao longo do talude (longitudinalmente).
21. Para evitar capotagem ou perda de controlo, não arranque nem pare subitamente em taludes. Reduza a velocidade ao fazer curvar apertadas. Seja cauteloso ao mudar de direcção.
22. Use sempre o cinto de segurança ao conduzir tractores equipados com ROPS.

    Nunca use cinto de segurança ao conduzir tractores sem ROPS.
23. Mantenha as pernas, os braços e o corpo dentro do compartimento do assento durante a deslocação do veículo.
24. Coloque a caixa de velocidades em ponto-morto (transmissão manual) ou mude o selector para Park (transmissão automática) e accione o travão de estacionamento antes de abandonar o veículo.
25. Carregue as baterias numa área aberta e bem ventilada, longe de faíscas e chamas. Desligue o ficha do carregador antes de o ligar e desligar à bateria. Use vestuário de protecção e ferramentas isoladas.
26. Desligue os cabos da bateria antes de qualquer trabalho de soldadura neste veículo.

1.2 IMPORTANTES INSTRUÇÕES DE SEGURANÇA

Esta chamada de atenção de segurança é usado para assinalar perigos potenciais.

PERIGO - Indica uma situação de perigo iminente que, se não for evitada, **PROVOCARÁ** a morte ou ferimentos graves.

ATENÇÃO - Indica uma situação potencialmente perigosa que, se não for evitada, **PODE** provocar a morte ou ferimentos graves.

CUIDADO - Indica uma situação potencialmente perigosa que, se não for evitada, **PODE** provocar ferimentos ligeiros a médios e danos materiais. Também pode ser usado para alertar contra práticas inseguras.

AVISO - Indica uma situação potencialmente perigosa, que, se não for evitada, **PODE** provocar danos materiais. Também pode ser usado para alertar contra práticas inseguras.

Para maior clareza das gravuras, algumas ilustrações neste manual podem mostrar chapas, resguardos ou placas abertas ou removidas. No entanto, em nenhumas circunstâncias poderá este equipamento ser conduzido sem esses dispositivos firmemente instalados nos seus lugares.

⚠ ATENÇÃO

O sistema Interlock deste veículo evita que este se coloque a trabalhar excepto se o pedal da embraiagem estiver pressionado (Transmissão manual) e ou selector de velocidade estiver em P (Park) ou em ponto-morto (N) (transmissão automática).

NUNCA utilize o veículo se o sistema Interlock não estiver a funcionar.

⚠ ATENÇÃO

1. Antes de abandonar a posição de condução por qualquer razão:
   a. Retire o pé do acelerador.
   b. Abrande o veículo com pedal de serviço.
   c. Pressione a embraiagem e desengrene o motor.
   d. Accione o travão de estacionamento.
   e. Pare o motor e retire a chave da ignição.
2. Mantenha a roupa, as mãos e os pés afastados das peças móveis. Aguarde até à paragem total de qualquer movimento antes de proceder a quaisquer limpezas, ajustes ou modificações.
3. Mantenha a área de utilização livre de pessoas e animais.
4. Nunca transporte mais passageiros do que a lotação do veículo.

Se seguir todas as instruções deste manual, prolongará a vida da sua máquina e manterá o seu rendimento máximo. Operações de afinação e de manutenção só devem ser executadas por um técnico qualificado.

Se precisar de informação ou assistência adicional, deverá entrar em contacto com o seu vendedor autorizado de Jacobsen, que está informado sobre os métodos de assistência mais recentes a este equipamento e pode prestar assistência rápida e eficaz.

2 NÚMEROS DE IDENTIFICAÇÃO DO VEÍCULO

2.1 NÚMERO DE IDENTIFICAÇÃO DO VEÍCULO

O VIN (Número de Identificação do Veículo), que integra o número do modelo, o código da data e o número de série estão impressos na etiqueta com Identificação colada na transversal, sob o painel de instrumentos.

O número de série também está impresso no elemento transversal. Está localizado à esquerda da Etiqueta de Identificação.

Nota: *As referências à direita, à esquerda, à parte da frente e de trás da máquina são referenciadas a partir da posição do utilizador virado para a frente.*

Registe a informação da Identificação do Veículo abaixo para facilitar a referência.

Número de Modelo: _____

Código da Data: _____

Número de série: _____

Figura 2A

Forneça sempre o Número de Identificação do Veículo ao encomendar peças de substituição ou ao solicitar informações de serviço. O Número de Identificação do Veículo deverá surgir em toda a correspondência referente a este veículo.

2.2 NÚMEROS DE IDENTIFICAÇÃO DO MOTOR

O Truckster está equipado com um motor Kubota® de três cilindros a gasóleo, de quatro ciclos, arrefecido a líquido, ou um motor Suzuki® de três cilindros a gasolina, de quatro ciclos, arrefecido a líquido.

O Número de Série do Motor Kubota localiza-se no bloco de motor, do lado direito, perto do alternador.

O Número de Série do Motor Suzuki localiza-se no lado superior do bloco de motor, do lado direito, sob o apoio do motor e poderá estar parcialmente escondido pela cablagem eléctrica. O número de série também está impresso à mão no alimentador de combustível.

Registe o Número de Série do Motor abaixo para facilitar a referência.

Número de série do motor: _____

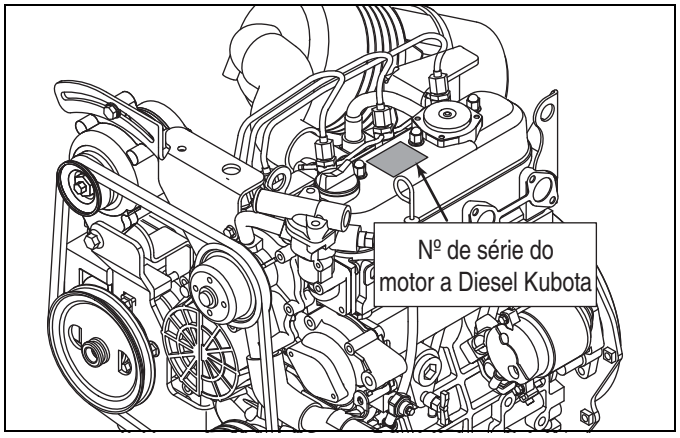


Figura 2B

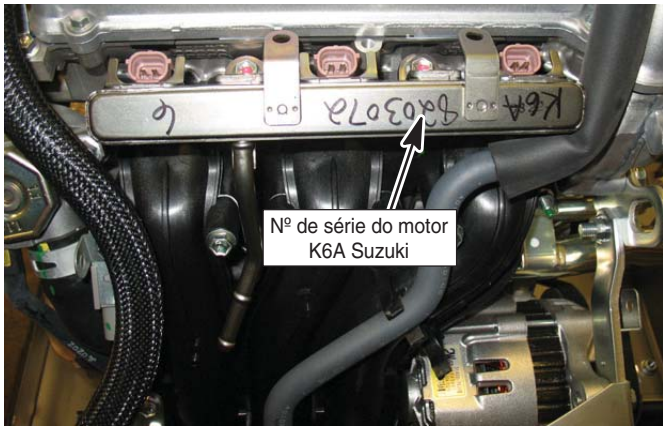


Figura 2C

3.1 IDENTIFICAÇÃO DO PRODUTO

84063 ..... Turf Truckster com motor Diesel arrefecido por líquido, transmissão manual de 4 velocidades, diferencial de 2 velocidades 11,16:1, PTO mecânico e ROPS de quatro colunas.

84064 ..... Turf Truckster com motor Diesel arrefecido por líquido, transmissão manual de 4 velocidades, diferencial de 2 velocidades 11,16:1, PTO mecânico e ROPS de quatro colunas. Aprovação CE.

84067 ..... Turf Truckster com motor a gasolina arrefecido por líquido, transmissão manual de 5 velocidades, diferencial de 2 velocidades 14,21:1 e ROPS de quatro colunas.

84068 ..... Turf Truckster com motor a gasolina arrefecido por líquido, transmissão automática de 3 velocidades, diferencial de 2 velocidades 14,21:1 e ROPS de quatro colunas.

84069 ..... Turf Truckster com motor a gasolina arrefecido por líquido, transmissão manual de 5 velocidades, diferencial de 2 velocidades 11,16:1 e ROPS de quatro colunas.

Produto	Nível sonoro CEE	Ouvido do operador	Vibração M/S^2	
			Braços	Corpo
84064	103 dB(A)	84 dB(A)	2,14	0,096

3.2 MOTOR A DIESEL

Marca ..... Kubota
Modelo D1105-E3B
Potência ..... 19,4 kW às 3000 rpm
Nota: *É provável que a potência debitada seja mais baixa do que a anunciada nas características técnicas em virtude das limitações de funcionamento e factores ambientais.*

Deslocação ..... 1123 cc
Binário ..... 71,5 Nm às 2200 rpm
Combustível:
- Tipo ..... Gasóleo nº 2, de enxofre baixo ou ultra baixo
- Classificação ..... Mín. Cetano classificação 45
- Capacidade ..... 24,5 litros

Controlador velocidade ... Todas as velocidades mecânicas
- Rotação mínima ..... 1300 RPM
- Rotação máxima ..... 3180 RPM

Lubrificação:
- Capacidade ..... 5,1 litros
- Abaixo de 0° C ..... SAE 10W ou 10W30/10W40
- 0° C - 25° C ..... SAE 20W ou 10W30/10W40
- Acima de 25° C ..... SAE 30W ou 10W30/10W40
- Classificação API ..... CD ou CE

Filtro do ar ..... Tipo seco com válvula evacuadora
Alternador ..... 60 A
Arrefecimento ..... Arrefecido por Líquido
- Capacidade ..... 4,8 l mistura de 50/50 de água com glycol-etileno

3.3 MOTOR A GASOLINA

Marca ..... Suzuki
Modelo K6
Potência ..... 25,35 kW às 4450 rpm
Deslocação ..... 658 cc
Binário ..... 51,9 Nm às 3200 rpm
Combustível:
- Tipo ..... Gasolina sem chumbo
- Classificação ..... Mín. Octano classificação 87
- Capacidade ..... 24,5 litros

AVISO

O uso de combustível com mais de 10 % de etanol pode danificar o sistema de controlo de emissões do motor e, portanto, invalidar a garantia relativa a emissões por acção inadequada do operador.

Controlador velocidade ... Externo mecânico
- Rotação mínima ..... 950 RPM
- Rotação máxima ..... 4450 RPM

Lubrificação:
- Capacidade ..... 3 litros
- Abaixo de 0° C ..... SAE 10W30
- 0° C - 30° C ..... SAE 10W30
- Acima de 30° C ..... SAE 10W30W ou 10W40
- Classificação API ..... SJ

Filtro do ar ..... Tipo seco com válvula evacuadora
Alternador ..... 60 A
Arrefecimento ..... Arrefecido por Líquido
- Capacidade ..... 3 l mistura de 50/50 de água com glycol-etileno

Velas de Ignição:
- NGK 3932 ..... DCPR7E
- Denso XU22EPR-U
- Folga ..... 0,8 - 1,27 mm

3 ESPECIFICAÇÕES

3.4 VEÍCULO

Pneus:
- Dianteira ..... 20 x 10 - 10 Multi Raio
- Traseira..... 24 x 13 -12 Titan Ultra Trac

Pressão dos pneus:
- Dianteira ..... 1,38 Bar
- Traseira..... 1 - 1,2 Bar

Bateria:
- Tipo..... 12 V Chumbo/Ácido
- Grupo..... 24

Travão de serviço ..... travões de tambor hidráulicos nas quatro rodas
- Fluido dos travões .... DOT 3

Travão de estacionamento ..... Integral até ao travão de trás, accionado por alavanca manual

Direcção ..... Direcção assistida dianteira

Capacidade de reboque:
- Reboque GVWR com um máximo de..... 680 kg
- Peso da lingueta ..... 90,7 kg

Capacidade nominal do veículo ..... 1293 kg

Nota: *Ao calcular o peso da carga, inclua 53,5 kg para a ROPS padrão de quatro colunas. Não exceda a capacidade nominal do veículo.*

3.5 RELAÇÕES DE TRANSMISSÃO

84067 - Relações de engrenagem:
- 5ª velocidade 1,000:1
- 4ª velocidade 1,264:1
- 3ª velocidade 1,908:1
- 2ª velocidader 3,017:1
- 1ª velocidade 5,106:1
- Marcha-atrás..... 5,151:1
- Diferencial hipóide .... 14,21:1 com redução 3,2:1

84068 - Relações de engrenagem:
- 3rd Gear 1,000:1
- 2nd Gear..... 1,536:1
- 1st Gear..... 2,727:1
- Marcha-atrás..... 2,222:1
- Diferencial hipóide .... 14.21:1 com redução 3.2:1

84069 - Relações de engrenagem:
- 5ª velocidade..... 1,000:1
- 4ª velocidade..... 1,264:1
- 3ª velocidade..... 1,908:1
- 2ª velocidade..... 3,017:1
- 1ª velocidade..... 5,106:1
- Marcha-atrás 5,151:1
- Diferencial hipóide.... 11.16:1 com redução 3.2:1

84063 e 84064 - Relações de engrenagem:
- 4th Gear 1,000:1
- 3rd Gear 1,423:1
- 2nd Gear..... 1,947:1
- 1st Gear..... 3,652:1
- Marcha-atrás 3,463:1
- Diferencial hipóide.... 11.16:1 com redução 3.2:1

3.6 PESOS E DIMENSÕES

Dimensões:	**mm**
Comprimento	2897
Altura	1892
Largura de eixos	1478
Raio de Brecagem (exterior)	6146

Pesos:	**kg**
84063	834
84064	838
84056	766
84057	682
84061	766

3.7 ACESSÓRIOS E LITERATURA DE APOIO

Peça ao distribuidor de Jacobsen da sua área a lista completa de acessórios e anexos.

⚠ CUIDADO

A utilização de componentes e acessórios não autorizados por Jacobsen pode dar origem a ferimentos pessoais ou a danos no equipamento e anulará a garantia.

Plataformas e Caixas

Plataforma de 1,17 m de Desacoplagem Rápida 889983
Plataforma de 1,5 mde Desacoplagem Rápida 894769
Conjunto de Caixa 1,17 m (Exige 889983) 890010
Conjunto de Caixa 1,5 m (Exige 894769) 2703394
Conjunto de Caixa Poli 892530
Lona de Caixa (para 890010) 888532

Engates

Engate de bola de quinta roda 894690
Engate em pescoço de ganso 4114386
Engate em barra plana 4114566

Acessórios ROPS

ROPS Superior (Estrutura Protectora Contra Capotamento) 894761
Porta de Aço, Lado esquerdo (Exige 894761) 2701303
Porta de Aço, Lado direito (Exige 894761) 2701304
Espelhos laterais (esquerdo e direito) 894768
Óculo traseiro 894758
Pára-brisas com escova 894757
Substituição da ROPS de quatro colunas 4205580

Nota: *A ROPS de quatro colunas equipada como equipamento de série neste veículo não pode ser utilizada com acessórios para a capota. Se pretender utilizar uma capota fechada, a ROPS de quatro colunas deve ser substituída pela ROPS Superior 894761.*

Acessórios Hidráulicos

Elevador Hidráulico a Gasolina 4147940
Elevador Hidráulico a Diesel 894713
Elevador de implemento (Estrutura “A”) 892493
Engate do vedante seco, 1 jogo 894604
PTO Hidráulico (Exige 894712 e 894713) 894644

Acessórios de Transporte

PTO mecânico de utilização intensiva 4112981
Arejador Rápido 2701529
Suporte frontal (suporte de controlo do pulverizador) 4119631
Aparador 1500 Top 2701650
Indicador de Mudança de Direcção com farol traseiro direito 894764
Pulverizador VICON (Exige 2701601 ou 2701602) 2701600
Unidade de Potência Hidráulica VICON 2701601
Unidade de Potência Mecânica VICON 2701602
Alarme de reserva 2703183
Retentor de Faíscas de Escape 882574
Descongelador de aquecedor 894760

Literatura de Suporte

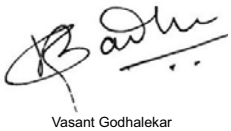
Manual de Segurança e Utilização 4175886
Manual de Peças e Manutenção 4175887
Manual de Peças do Motor Suzuki 4140632
Manual de Peças do Motor Kubota 4160162
Manual de Serviço e Reparação

3 ESPECIFICAÇÕES

3.8 DECLARAÇÃO DE CONFORMIDADE

DECLARATION OF CONFORMITY ▪ ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ ▪ PROHLÁŠENÍ O SHODĚ ▪ OVERENSSTEMMELSESERKLÆRING ▪ CONFORMITEITSVERKLARING ▪ VASTAVUSDEKLARATSIOON ▪ VAATIMUSTENMUKAISUUSVAKUUTUS ▪ DECLARATION DE CONFORMITE ▪ KONFORMITÄTSERKLÄRUNG ▪ ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ▪ MEGFELELŐSÉGI NYILATKOZAT ▪ DICHIARAZIONE DI CONFORMITÀ ▪ ATBILSTĪBAS DEKLARĀCIJA ▪ ATITIKTIES DEKLARACIJA ▪ DIKJARAZZJONI TAL-KONFORMITÀ ▪ DEKLARACJA ZGODNOŚCI ▪ DECLARAÇÃO DE CONFORMIDADE ▪ DECLARAŢIE DE CONFORMITATE ▪ VYHLÁSENIE O ZHODE ▪ IZJAVA O SKLADNOSTI ▪ DECLARACIÓN DE CONFORMIDAD ▪ DEKLARATION OM ÖVERENSSTÄMMELSE

Business name and full address of the manufacturer • Търговско име и пълен адрес на производителя • Obchodní jméno a plná adresa výrobce • Producentens firmanavn og fulde adresse • Bedrijfsnaam en volledig adres van de fabrikant • Tootja ärinimi ja täielik aadress • Valmistajan toiminimi ja täydellinen osoite • Nom commercial et adresse complète du fabricant • Firmenname und vollständige Adresse des Herstellers • Επωνυμία και ταχυδρομική διεύθυνση κατασκευαστή • A gyártó üzleti neve és teljes címe • Ragione sociale e indirizzo completo del fabbricante • Uzņēmuma nosaukums un pilna ražotāja adrese • Verslo pavadinimas ir pilnas gamintojo adresas • Isem kummerċjali u indirizz sħiħ tal-fabbrikant • Nazwa firmy i pełny adres producenta • Nome da empresa e endereço completo do fabricante • Denumirea comercială şi adresa completă a producătorului • Obchodný názov a úplná adresa výrobcu • Naziv podjetja in polni naslov proizvajalca • Nombre de la empresa y dirección completa del fabricante • Tillverkarens företagsnamn och kompletta adress	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA
Product Code • Код на продукта • Kód výrobku • Produktkode • Productcode • Toote kood • Tuotekoodi • Code produit • Produktcode • Κωδικός προϊόντος • Termékkód • Codice prodotto • Produkta kods • Produkto kodas • Kodiċi tal-Prodott • Kod produktu • Código do Produto • Cod produs • Kód výrobku • Oznaka proizvoda • Código de producto • Produktkod	84064
Machine Name • Наименование на машината • Název stroje • Maskinnavn • Machinenaam • Masina nimi • Laitteen nimi • Nom de la machine • Maschinenbezeichnung • Ονομασία μηχανήματος • Gépnév • Denominazione della macchina • Iekārtas nosaukums • Mašinos pavadinimas • Isem tal-Magna • Nazwa urządzenia • Nome da Máquina • Numele echipamentului • Názov stroja • Naziv stroja • Nombre de la máquina • Maskinens namn	Diesel Turf Truckster
Designation • Предназначение • Označení • Betegnelse • Benaming • Nimetus • Tyyppimerkintä • Pažymėjimas • Bezeichnung • Χαρακτηρισμός • Megnevezés • Funzione • Apzīmējums • Lithuanian • Denominazzjoni • Oznaczenie • Designação • Specificaţie • Označenie • Namen stroja • Descripción • Beteckning	Article 13
Serial Number • Сериен номер • Sériové číslo • Serienummer • Serienummer • Seerianumber • Valmistusnumero • Numéro de série • Seriennummer • Σειριακός αριθμός • Sorozatszám • Numero di serie • Sērijas numurs • Serijos numeris • Numru Serjali • Numer seryjny • Número de Série • Număr de serie • Sériové číslo • Serijska številka • Número de serie • Serienummer	8406401651-8406404500
Engine • Двигател • Motor • Motor • Motor • Mootor • Moottori • Moteur • Motor • Μηχανή • Modulnév • Motore • Dzinējs • Variklis • Saħħa Netta Installata • Silnik • Motor • Motor • Motor • Motor • Motor • Motor	Kubota D1105-E3B
Net Installed Power • Нетна инсталирана мощност • Čistý instalovaný výkon • Installeret nettoeffekt • Netto geïnstalleerd vermogen • Installeeritud netovõimsus • Asennettu nettoteho • Puissance nominale nette • Installierte Nettoleistung • Καθαρή εγκατεστημένη ισχύς • Nettó beépített teljesítmény • Potenza netta installata • Paredzētā tīkla jauda • Grynoji galia • Wisa' tal-Qtugħ • Moc zainstalowana netto • Potência instalada • Puterea instalată netă • Čistý inštalovaný výkon • Neto vgrajena moč • Potencia instalada neta • Nettoeffekt	18,5 kW @ 3200 RPM
Cutting Width • Широчина на рязане • Šířka řezu • Skærebredde • Maaibreedte • Lõikelaius • Leikkuuleveys • Largeur de coupe • Schnittbreite • Μήκος μισινέζας • Vágási szélesség • Larghezza di taglio • Griešanas platums • Pjovimo plotis • Tikkonforma mad-Direttivi • Szerokość cięcia • Largura de Corte • Lăţimea de tăiere • Šírka záberu • Širina reza • Anchura de corte • Klippbredd	NA
Conforms to Directives • В съответствие с директивите • Splňuje podmínky směrnic • Er i overensstemmelse med direktiver • Voldoet aan de richtlijnen • Vastab direktiividele • Direktiivien mukainen • Conforme aux directives • Entspricht Richtlinien • Ακολουθήστε πιστά τις Οδηγίες • Megfelel az irányelveknek • Conforme alle Direttive • Atbilst direktīvām • Atitinka direktyvų reikalavimus • Valutazzjoni tal-Konformità • Dyrektywy związane • Cumpre as Directivas • Respectă Directivele • Je v súlade so smernicami • Skladnost z direktivami • Cumple con las Directivas • Uppfyller direktiv	2004/108/EC 2006/42/EC 2000/14/EC, 2005/88/EC 2006/66/EC
Conformity Assessment • Оценка за съответствие • Hodnocení plnění podmínek • Overensstemmelsesvurdering • Conformiteitsbeoordeling • Vastavushindamine • Vaatimustenmukaisuuden arviointi • Evaluation de conformité • Konformitätsbeurteilung • Διαπίστωση Συμμόρφωσης • Megfelelőség-értékelés • Valutazione della conformità • Atbilstības novērtējums • Atitikties įvertinimas • Livell tal-Qawwa tal-Ħoss Imkejjel • Ocena zgodności • Avaliação de Conformidade • Evaluarea conformităţii • Vyhodnotenie zhodnosti • Ocena skladnosti • Evaluación de conformidad • Bedömning av överensstämmelse	2006/42/EC Annex VIII
Measured Sound Power Level • Измерено ниво на звукова мощност • Naměřený akustický výkon • Målte lydstyrkeniveau • Gemeten geluidsniveau • Mõõdetud helivõimsuse tase • Mitattu äänitehotaso • Niveau de puissance sonore mesuré • Gemessener Schalldruckpegel • Σταθμισμένο επίπεδο ηχητικής ισχύος • Mért hangteljesítményszint • Livello di potenza sonora misurato • Izmērītais skaņas jaudas līmenis • Išmatuotas garso stiprumo lygis • Livell tal-Qawwa tal-Ħoss Iggarantit • Moc akustyczna mierzona • Nível sonoro medido • Nivelul măsurat al puterii acustice • Nameraná hladina akustického výkonu • Izmerjena raven zvočne moči • Nivel de potencia sonora medido • Uppmätt ljudeffektsnivå	103 dB(A) LWA
Guaranteed Sound Power Level • Гарантирано ниво на звукова мощност • Garantovaný akustický výkon • Garanteret lydstyrkeniveau • Gegarandeerd geluidsniveau • Garanteeritud helivõimsuse tase • Taattu äänitehotaso • Niveau de puissance sonore garanti • Garantierter Schalldruckpegel • Εγγυημένο επίπεδο ηχητικής ισχύος • Szavatolt hangteljesítményszint • Livello di potenza sonora garantito • Garantētais skaņas jaudas līmenis • Garantuotas garso stiprumo lygis • Livell tal-Qawwa tal-Ħoss Iggarantit • Moc akustyczna gwarantowana • Nível sonoro farantido • Nivelul garantat al puterii acustice • Garantovaná hladina akustického výkonu • Zajamčena raven zvočne moči • Nivel de potencia sonora garantizado • Garanterad ljudeffektsnivå	104 dB(A) LWA
Conformity Assessment Procedure (Noise) • Оценка за съответствие на процедурата (Шум) • Postup hodnocení plnění podmínek (hluk) • Procedure for overensstemmelsesvurdering (Støj) • Procedure van de conformiteitsbeoordeling (geluid) • Vastavushindamismenetlus (müra) • Vaatimustenmukaisuuden arviointimenettely (Melu) • Procédure d'évaluation de conformité (bruit) • Konformitätsbeurteilungsverfahren (Geräusch) • Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) • Megfelelőség-értékelési eljárás (Zaj) • Procedura di valutazione della conformità (rumore) • Atbilstības novērtējuma procedūra (troksnis) • Atitikties įvertinimo procedūra (garsas) • Proċedura tal-Valutazzjoni tal-Konformità (Ħoss) • Procedura oceny zgodności (poziom hałasu) • Processo de avaliação de conformidade (nível sonoro) Procedura de evaluare a conformităţii (zgomot) • Postup vyhodnocovania zhodnosti (hluk) • Postopek za ugotavljanje skladnosti (hrup) • Procedimiento de evaluación de conformidad (ruido) • Procedur för bedömning av överensstämmelse (buller)	2000/14/EC Annex V
UK Notified Body for 2000/14/EC • Нотифициран орган в Обединеното кралство за 2000/14/ЕО • Úřad certifikovaný podle směrnice č. 2000/14/EC • Det britiske bemyndigede organ for 2001/14/EF • Engels adviesorgaan voor 2000/14/EG • Ühendkuningriigi teavitatud asutus direktiivi 2000/14/EÜ mõistes • Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isossa-Britanniassa • Organisme notifié concernant la directive 2000/14/CE • Britische benannte Stelle für 2000/14/EG • Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/ΕΚ • 2000/14/EK – egyesült királyságbeli bejelentett szervezet • Organismo Notificato in GB per 2000/14/CE • 2000/14/EK AK reģistrētā organizācija • JK notifikuotosios įstaigos 2000/14/EC • Korp Notifikat tar-Renju Unit għal 2000/14/KE • Dopuszczona jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE • Entidade notificada no Reino Unido para 2000/14/CE • Organism notificat în Marea Britanie pentru 2000/14/CE • Notifikovaný orgán Spojeného kráľovstva pre smernicu 2000/14/ES • Britanski priglašeni organ za 2000/14/ES • Cuerpo notificado en el Reino Unido para 2000/14/CE • Anmält organ för 2000/14/EG i Storbritannien	Number: 1088 Sound Research Laboratories Limited Holbrook House, Little Waldingfield Sudbury, Suffolk CO10 0TH
Operator Ear Noise Level • Оператор на нивото на доловим от ухото шум • Hladina hluku v oblasti uší operátora • Støjniveau i førers ørehøjde • Geluidsniveau oor bestuurder • Müratase operaatori kõrvas • Melutaso käyttäjän korvan kohdalla • Niveau de bruit à hauteur des oreilles de l'opérateur • Schallpegel am Bedienerohr • Επίπεδο θορύβου σε λειτουργία • A kezelő fülénél mért zajszint • Livello di potenza sonora all'orecchio dell'operatore • Trokšņa līmenis pie operatora auss • Dirbančiojo su mašina patiriamo triukšmo lygis • Livell tal-Ħoss fil-Widna tal-Operatur • Dopuszczalny poziom hałasu dla operatora • Nível sonoro nos ouvidos do operador • Nivelul zgomotului la urechea operatorului • Hladina hluku pôsobiaca na sluch operátora • Raven hrupa pri ušesu upravljavca • Nivel sonoro en el oído del operador • Ljudnivå vid förarens öra	84 dB(a) Leq (2006/42/EC)

Harmonised standards used • Използвани хармонизирани стандарти • Použité harmonizované normy • Brugte harmoniserede standarder • Gebruikte geharmoniseerde standaards • Kasutatud ühtlustatud standardid • Käytetyt yhdenmukaistetut standardit • Normes harmonisées utilisées • Angewandte harmonisierte Normen • Εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν • Harmonizált szabványok • Standard armonizzati applicati • Izmantotie saskaņotie standarti • Panaudoti suderinti standartai • Standards armonizzati użati • Normy spójne powiązane • Normas harmonizadas usadas • Standardele armonizate utilizate • Použité harmonizované normy • Uporabljeni usklajeni standardi • Estándares armonizados utilizados • Harmoniserade standarder som används	BS EN ISO 20643 BS EN ISO 5349-1 BS EN ISO 5349-2
Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standaards en specificaties • Kasutatud tehnilised standardid ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Τεχνικά πρότυπα και προδιαγραφές που χρησιμοποιήθηκαν • Műszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standarti un specifikācijas • Panaudoti techniniai standartai ir techninė informacija • Standards u speċifikazzjonijiet tekniċi użati • Normy i specyfikacje techniczne powiązane • Normas técnicas e especificações usadas • Standardele tehnice şi specificaţiile utilizate • Použité technické normy a špecifikácie • Uporabljeni tehnični standardi in specifikacije • Estándares y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används	ISO 2631-1 SAE 21299
The place and date of the declaration • Място и дата на декларацията • Místo a datum prohlášení • Sted og dato for erklæringen • Plaats en datum van de verklaring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la déclaration • Ort und Datum der Erklärung • Τόπος και ημερομηνία δήλωσης • A nyilatkozat kelte (hely és idő) • Luogo e data della dichiarazione • Deklarācijas vieta un datums • Deklaracijos vieta ir data • Il-post u d-data tad-dikjarazzjoni • Miejsce i data wystawienia deklaracji • Local e data da declaração • Locul şi data declaraţiei • Miesto a dátum vyhlásenia • Kraj in datum izjave • Lugar y fecha de la declaración • Plats och datum för deklarationen	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA January 1, 2011
Signature of the person empowered to draw up the declaration on behalf of the manufacturer, holds the technical documentation and is authorised to compile the technical file, and who is established in the Community. Подпис на човека, упълномощен да състави декларацията от името на производителя, който поддържащ техническата документация и е оторизиран да изготви техническия файл и е регистриран в общността. Podpis osoby oprávněné sestavit prohlášení jménem výrobce, držet technickou dokumentaci a osoby oprávněné sestavit technické soubory a založené v rámci Evropského společenství. Underskrift af personen, der har fuldmagt til at udarbejde erklæringen på vegne af producenten, der er indehaver af dokumentationen og er bemyndiget til at udarbejde den tekniske journal, og som er baseret i nærområdet. Handtekening van de persoon die bevoegd is de verklaring namens de fabrikant te tekenen, de technische documentatie bewaart en bevoegd is om het technische bestand samen te stellen, en die is gevestigd in het Woongebied. Ühenduse registrisse kantud isiku allkiri, kes on volitatud tootja nimel deklaratsiooni koostama, kes omab tehnilist dokumentatsiooni ja kellel on õigus koostada tehniline toimik. Sen henkilön allekirjoitus, jolla on valmistajan valtuutus vakuutuksen laadintaan, jolla on hallussaan tekniset asiakirjat, joka on valtuutettu laatimaan tekniset asiakirjat ja joka on sijoittautunut yhteisöön. Signature de la personne habilitée à rédiger la déclaration au nom du fabricant, à détenir la documentation technique, à compiler les fichiers techniques et qui est implantée dans la Communauté. Unterschrift der Person, die berechtigt ist, die Erklärung im Namen des Herstellers abzugeben, die die technischen Unterlagen aufbewahrt und berechtigt ist, die technischen Unterlagen zusammenzustellen, und die in der Gemeinschaft niedergelassen ist. Υπογραφή ατόμου εξουσιοδοτημένου για την σύνταξη της δήλωσης εκ μέρους του κατασκευαστή, ο οποίος κατέχει την τεχνική έκθεση και έχει την εξουσιοδότηση να ταξινομήσει τον τεχνικό φάκελο και ο οποίος είναι διορισμένος στην Κοινότητα. A gyártó nevében meghatalmazott személy, akinek jogában áll módosítania a nyilatkozatot, a műszaki dokumentációt őrzi, engedéllyel rendelkezik a műszaki fájl összeállításához, és aki a közösségben letelepedett személy. Firma della persona autorizzata a redigere la dichiarazione a nome del fabbricante, in possesso Della documentazione tecnica ed autorizzata a costituire il fascicolo tecnico, che deve essere stabilita nella Comunità. Tās personas paraksts, kura ir pilnvarota deklarācijas sastādīšanai ražotāja vārdā, kurai ir tehniskā dokumentācija, kura ir pilnvarota sagatavot tehnisko reģistru un kura ir apstiprināta Kopienā. Asmuo, kuris yra gana žinomas, kuriam gamintojas suteikė įgaliojimus sudaryti šią deklaraciją, ir kuris ją pasirašė, turi visą techninę informaciją ir yra įgaliotas sudaryti techninės informacijos dokumentą. Il-firma tal-persuna awtorizzata li tfassal id-dikjarazzjoni f'isem il-fabbrikant, għandha d-dokumentazzjoni teknika u hija awtorizzata li tikkompila l-fajl tekniku u li hija stabbilita fil-Komunità. Podpis osoby upoważnionej do sporządzenia deklaracji w imieniu producenta, przechowującej dokumentację techniczną, upoważnioną do stworzenia dokumentacji technicznej oraz wyznaczonej ds. wspólnotowych. Assinatura da pessoa com poderes para emitir a declaração em nome do fabricante, que possui a documentação técnica, que está autorizada a compilar o processo técnico e que está estabelecida na Comunidade. Semnătura persoanei împuternicite să elaboreze declaraţia în numele producătorului, care deţine documentaţia tehnică, este autorizată să compileze dosarul tehnic şi este stabilită în Comunitate. Podpis osoby poverenej vystavením vyhlásenia v mene výrobcu, ktorá má technickú dokumentáciu a je oprávnená spracovať technické podklady a ktorá je umiestnená v Spoločenstve. Podpis osebe, pooblaščene za izdelavo izjave v imenu proizvajalca, ki ima tehnično dokumentacijo in lahko sestavlja spis tehnične dokumentacije, ter ima sedež v Skupnosti. Firma de la persona responsable de la declaración en nombre del fabricante, que posee la documentación técnica y está autorizada para recopilar el archivo técnico y que está establecido en la Comunidad. Undertecknas av den som bemyndigad att upprätta deklarationen å tillverkarens vägnar, innehar den tekniska dokumentationen och är bemyndigad att sammanställa den tekniska informationen och som är etablerad i gemenskapen.	2006/42/EC Annex II 1.A.2 Tim Lansdell Technical Director Ransomes Jacobsen Limited West Road, Ransomes Europark, Ipswich, IP3 9TT, England 2006/42/EC Annex II 1.A.10  Vasant Godhalekar VP of Engineering Jacobsen, A Textron Company 11524 Wilmar Blvd, Charlotte, NC 28273, USA
Certificate Number • Номер на сертификат • Číslo osvědčení • Certifikatnummer • Certificaatnummer • Sertifikaadi number • Hyväksyntänumero • Numéro de certificat • Bescheinigungsnummer • Αριθμός Πιστοποιητικού • Hitelesítési szám • Numero del certificato • Sertifikāta numurs • Sertifikato numeris • Numru taċ-Ċertifikat • Numer certyfikatu • Número do Certificado • Număr certificat • Číslo osvedčenia • Številka certifikata • Número de certificado • Certifikatsnummer	4175887 Rev B

GB	BG	CZ	DK	NL	EE	FI	FR	DE	GR	HU
English	български	čeština	dansk	Nederlands	eesti	suomi	français	Deutsch	Ελληνικά	magyar
IT	LV	LT	MT	PL	PT	RO	SK	SI	ES	SE
italiano	latviešu valoda	lietuvių kalba	Malki	polski	português	Română	slovenčina	slovenščina	Ελληνικά	Svenska

4 AFINAÇÕES

4.1 GENERALIDADES

⚠ ATENÇÃO

Para se evitar a ocorrência de ferimentos, antes de fazer quaisquer afinações ou operações de manutenção, desça os equipamentos até ao chão, desengate todos os accionamentos, accione o travão de estacionamento, desligue o motor e retire a chave de ignição.

Assegure-se de que o tractor está estacionado numa superfície estável e horizontal. Nunca trabalhe num tractor seguro apenas pelo macaco. Utilize sempre cavaletes.

Se só for levantada a parte dianteira ou traseira do tractor, coloque calços à frente e atrás das rodas que ficarem no chão.

1. Trabalhos de afinação e de manutenção devem ser sempre feitos por um técnico qualificado. Se não for possível fazer a afinação adequada, contacte um representante Cushman autorizado.
2. Componentes com desgaste ou danificados devem ser substituídos e não reajustados.
3. Cabelo comprido, adereços ou vestuário solto podem ser apanhados por peças em movimentos.

⚠ CUIDADO

Cuidado para evitar que mãos e dedos sejam apanhados entre peças móveis e componentes fixos da máquina.

4. Não altere as afinações do regulador nem acelere o motor excessivamente.
5. Mantenha as mãos e os pés afastados das partes móveis. Se possível, não faça ajustes com o motor a trabalhar.

4.2 ACESSO AO MOTOR

Nunca retire ou instale o capô com o motor a trabalhar. O capô é um resguardo mecânico e a sua remoção expõe-o a peças em movimento. Mantenha as mãos, o cabelo e as roupas afastados do volante do motor, da ventoinha de arrefecimento do radiador, das correias do motor, polias e entradas de ar.

⚠ ATENÇÃO

Mantenha a roupa, as mãos e o cabelo afastados das peças móveis. Estes podem ficar presos na máquina e provocar ferimentos pessoais graves.

Para assistência técnica ao motor e componentes relacionados, o capô poderá ser oscilado para a frente ou retirado.

Para ganhar acesso ao motor, destrave o trinco – se aplicável – empurre os trincos do capô para trás e oscile o capô para a frente.

Ao substituir o capô, assegure-se de que as linguetas de retenção localizadas nos cantos dianteiros do capô estão inseridas nas ranhuras do chão do veículo. Levante o apoio para trás até que o engate do motor fique preso. Tranque-o à chave, se aplicável.

⚠ ATENÇÃO

A inobservância em fixar devidamente o apoio poderá resultar na deslocação do capô para a frente, o que originaria uma perda de controlo do veículo e possíveis ferimentos pessoais.

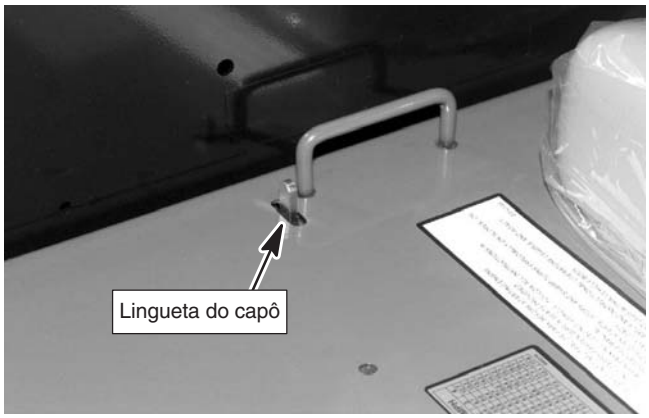


Figura 4A

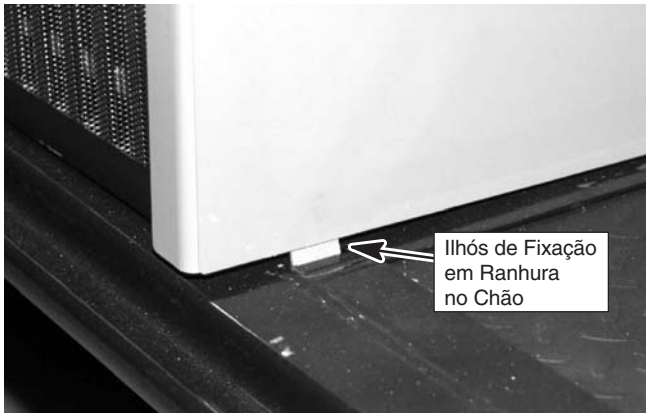


Figura 4B

4.3 ACESSO AO PAINEL DIANTEIRO

A capota frontal abre-se para dar acesso a dois painéis de acesso, ao painel dos fusíveis, à buzina e ao reservatório do cilindro principal.

Para abrir a capota frontal, localize a alavanca de abertura no canto superior esquerdo do clipe dianteiro, perto do farolim dianteiro esquerdo.

Puxe a alavanca em direcção ao farolim para libertar a lingueta da capota frontal e simultaneamente puxe-a para cima.

Abra totalmente a capota e apoie-a no volante ou na estrutura superior do ROPS (se instalada).

Se a capota não “saltar” quando a alavanca é puxada, deverá ser levantada manualmente.

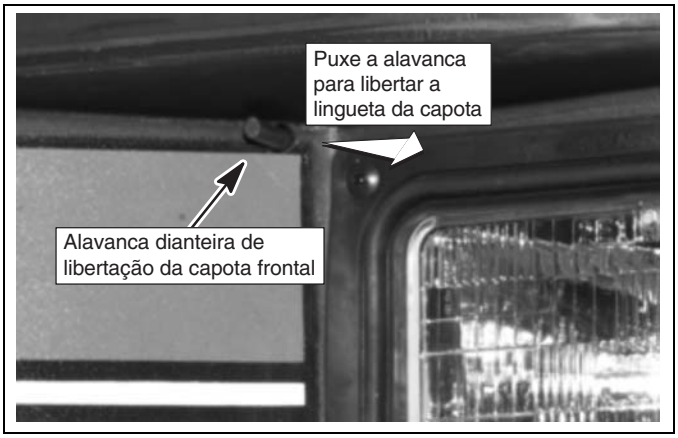


Figura 4C

4.4 PAINÉIS DE ACESSO

Há dois painéis de acesso localizados sob a capota frontal e outro a meio do chão.

Retire a tampa **(A)** sob a capota para aceder à caixa de velocidades e à cablagem do painel de instrumentos.

Retire o painel **(B)** sob a capota para aceder à suspensão dianteira.

Retire o painel central **(C)**, no meio do chão, para aceder ao cabo do acelerador, às ligações ao pedal do acelerador, à cablagem e a linha hidráulica do travão traseiro.

Nota: *Será necessário retirar o pedal do acelerador para se poder retirar completamente o painel central do chão.*

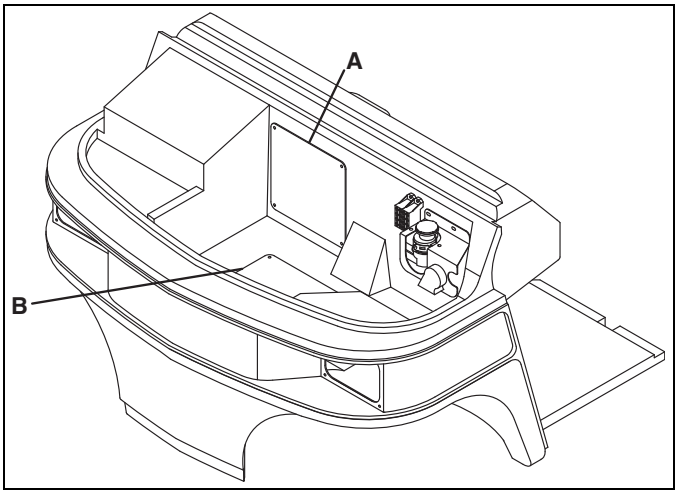


Figura 4D

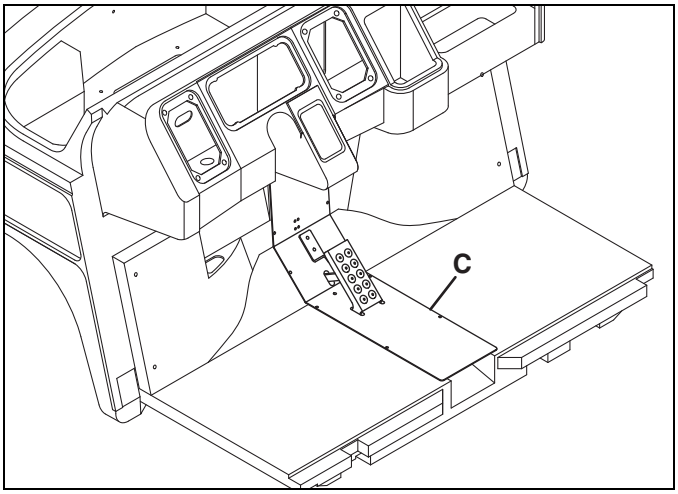


Figura 4E

4.5 CORREIA DO ALTERNADOR DO MOTOR A DIESEL

Inspeccione e afine a nova correia após as primeiras 24-48 horas de utilização. Após isso, afine-a a cada 200 horas.

Afine a polia do alternador para a correia deflectir 6 a 12 mm com uma pressão de 9 kg a meio entre a bomba da água e a polia do alternador.

Se a tensão for inadequada, desaperte os parafusos do alternador **(D)** e ajuste a correia até que a tensão adequada seja atingida.

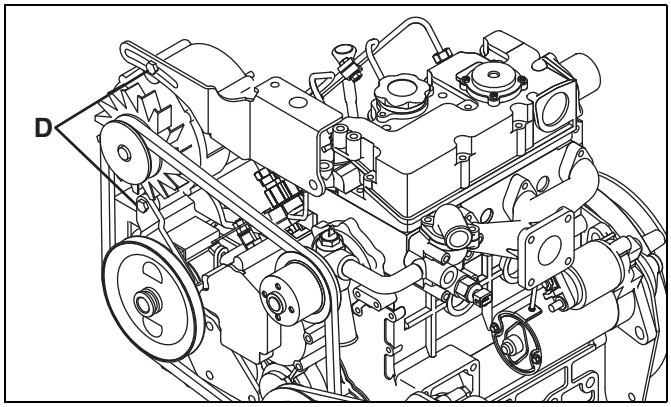


Figura 4F

4.6 CORREIA DA BOMBA HIDRÁULICA DO MOTOR A DIESEL

Inspeccione e afine a nova correia após as primeiras 24-48 horas de utilização. Após isso, afine-a a cada 200 horas.

Afine a polia da bomba de água para a correia deflectir 6 a 12 mm com uma pressão de 9 kg a meio entre as polias.

Se a tensão for inadequada, desaperte os parafusos de suporte da bomba **(E)** e afaste-a do motor até que a tensão adequada seja atingida.

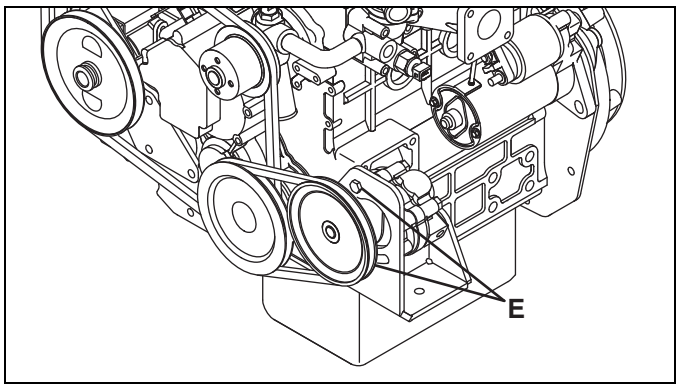


Figura 4G

4.7 CORREIA DA DIRECÇÃO ASSISTIDA – ALTERNADOR DO MOTOR A GASOLINA

Inspeccione e afine a nova correia após as primeiras 24-48 horas de utilização. Após isso, afine-a a cada 200 horas.

Afine a polia da bomba de água para a correia deflectir 6 a 12 mm com uma pressão de 17,5 kg a meio entre as polias.

Se a tensão for inadequada, desaperte os parafusos de suporte da bomba da direcção assistida **(F)** e afaste-a do motor até que a tensão adequada seja atingida.

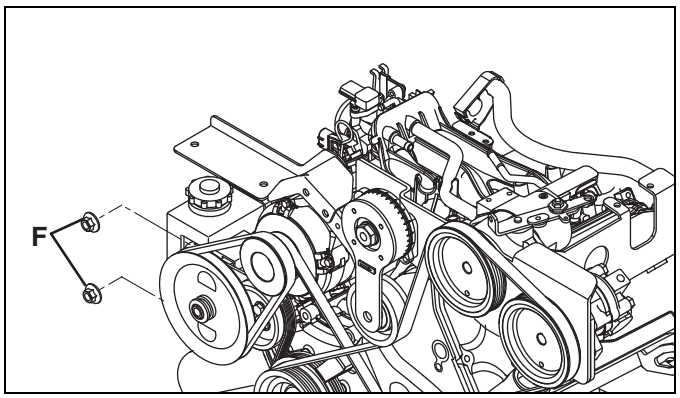


Figura 4H

4.8 CORREIA DA BOMBA HIDRÁULICA DO MOTOR A GASOLINA

Inspeccione e afine a nova correia após as primeiras 24-48 horas de utilização.

Correia ajustada dinamicamente com tensor de mola para 1,3 Nm. Não precisa de ajustamento.

Para retirar a correia, rode o tensor para o radiador para aliviar a tensão e retire a correia das polias.

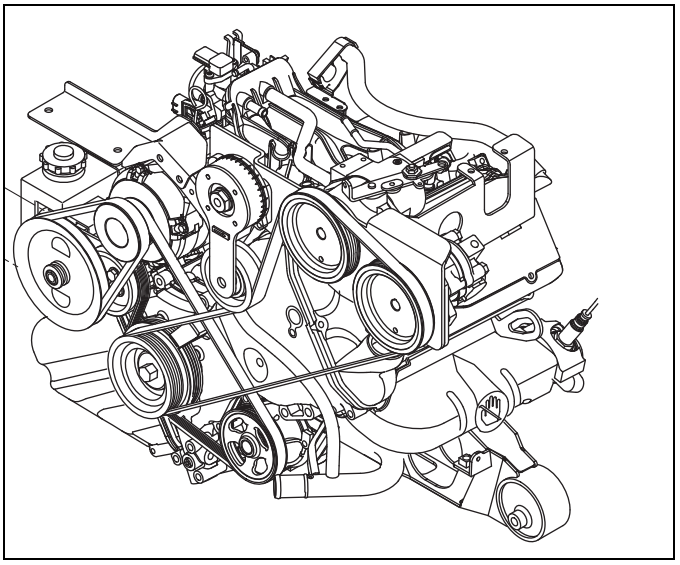


Figura 4I

4.9 CABO DO TRAVÃO DE ESTACIONAMENTO

1. Retire o capô. Coloque calços a bloquear à frente e atrás de pelo, menos duas rodas, em cantos opostos do veículo.
2. Accione o travão de estacionamento. Se a alavanca estiver a um ângulo superior a 45° em relação ao painel, é necessária afinação.
3. Liberte o travão de estacionamento.
4. Aperte a porca **(G)** duas ou três voltas.
5. Accione o travão de estacionamento. Repita os passos 3 e 4 até que a alavanca esteja aproximadamente a um ângulo de 45° com o travão de estacionamento accionado.

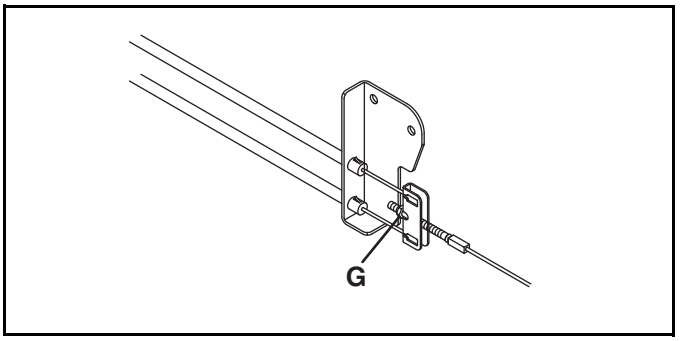


Figura 4J

4 AFINAÇÕES

4.10 BINÁRIO

AVISO

Todos os valores de binário incluídos nestas tabelas são aproximados e servem apenas como referência. A aplicação destes valores de binário é por conta e risco do utilizador. A Jacobsen não se responsabiliza por quaisquer perdas, reclamações ou danos resultantes da aplicação destas tabelas. **Deve haver sempre extrema cautela ao usar qualquer valor de binário.**

Jacobsen utiliza normalmente cavilhas anodizadas do grau 5, salvo indicação em contrário.

FIXADORES PADRÃO NACIONAIS AMERICANOS			
TAMANHO	UNIDADES	GRAU 5	GRAU 8
#6-32	in-lbs (Nm)	20 (2,3)	–
#8-32	in-lbs (Nm)	24 (2,7)	30 (3,4)
#10-24	in-lbs (Nm)	35 (4,0)	45 (5,1)
#10-32	in-lbs (Nm)	40 (4,5)	50 (5,7)
#12-24	in-lbs (Nm)	50 (5,7)	65 (7,3)
1/4-20	in-lbs (Nm)	95 (10,7)	125 (14,1)
1/4-28	in-lbs (Nm)	95 (10,7)	150 (17,0)
5/16-18	in-lbs (Nm)	200 (22,6)	270 (30,5)
5/16-24	in-lbs (Nm)	240 (27,1)	300 (33,9)
3/8-16	ft-lbs (Nm)	30 (40,7)	40 (54,2)
3/8-24	ft-lbs (Nm)	35 (47,5)	45 (61,0)

FIXADORES PADRÃO NACIONAIS AMERICANOS			
TAMANHO	UNIDADES	GRAU 5	GRAU 8
7/16-14	ft-lbs (Nm)	50 (67,8)	65 (88,1)
7/16-20	ft-lbs (Nm)	55 (74,6)	70 (94,9)
1/2-13	ft-lbs (Nm)	75 (101,7)	100 (135,6)
1/2-20	ft-lbs (Nm)	85 (115,3)	110 (149,2)
9/16-12	ft-lbs (Nm)	105 (142,4)	135 (183,1)
9/16-18	ft-lbs (Nm)	115 (155,9)	150 (203,4)
5/8-11	ft-lbs (Nm)	150 (203,4)	195 (264,4)
5/8-18	ft-lbs (Nm)	160 (217,0)	210 (284,8)
3/4-10	ft-lbs (Nm)	170 (230,5)	220 (298,3)
3/4-16	ft-lbs (Nm)	175 (237,3)	225 (305,1)
7/8-14	ft-lbs (Nm)	300 (406,8)	400 (542,4)

FIXADORES MÉTRICOS							
TAMANHO	UNIDADES	4.8	5.8	8.8	10.9	12.9	Elementos de aperto não críticos para alumínio
M4	Nm (in-lbs)	1,2 (11)	1,7 (15)	2,9 (26)	4,1 (36)	5,0 (44)	2,0 (18)
M5	Nm (in-lbs)	2,5 (22)	3,2 (28)	5,8 (51)	8,1 (72)	9,7 (86)	4,0 (35)
M6	Nm (in-lbs)	4,3 (38)	5,7 (50)	9,9 (88)	14,0 (124)	16,5 (146)	6,8 (60)
M8	Nm (in-lbs)	10,5 (93)	13,6 (120)	24,4 (216)	33,9 (300)	40,7 (360)	17,0 (150)
M10	Nm (ft-lbs)	21,7 (16)	27,1 (20)	47,5 (35)	66,4 (49)	81,4 (60)	33,9 (25)
M12	Nm (ft-lbs)	36,6 (27)	47,5 (35)	82,7 (61)	116,6 (86)	139,7 (103)	61,0 (45)
M14	Nm (ft-lbs)	58,3 (43)	76,4 (55)	131,5 (97)	184,4 (136)	219,7 (162)	94,9 (70)

5.1 GENERALIDADES

⚠ ATENÇÃO

Antes de proceder a limpeza, afinações ou reparações neste equipamento, desengate todos os accionadores, baixe os utensílios até ao solo, engate o travão de estacionamento, desligue o motor e retire a chave da ignição para evitar lesões.

Certifique-se de que o tractor está estacionado numa superfície sólida e plana. Nunca trabalhe num tractor que esteja apoiado somente no macaco. Utilize sempre os suportes do macaco.

1. Afinações e trabalhos de manutenção devem ser sempre executados por técnicos qualificados. Se a afinação apropriado não puder ser realizado, entre em contacto com o distribuidor autorizado da Jacobsen.
2. Inspeccione o equipamento a intervalos regulares, estabeleça um programa de manutenção e mantenha registos detalhados.
   a. Mantenha o equipamento limpo.
   b. Mantenha todos os componentes móveis correctamente afinados e lubrificados.
   c. Substitua peças gastas ou danificadas antes de começar a trabalhar com a máquina.
   d. Mantenha todos os fluidos nos níveis correctos.
   e. Mantenha todos os painéis no seu lugar e todos os equipamentos bem presos.
   f. Mantenha os pneus com a pressão de ar correcta.
3. Não use adornos nem vestuário solto ao fazer afinações ou reparações.
4. Use as gravuras no **Manual de Peças & Manutenção** como referência para desmontar e montar componentes.
5. Proceda à reciclagem ou deite fora todos os materiais de risco (baterias, combustíveis, lubrificantes, anti-congelante, etc.) de acordo com as regulamentações locais, regionais ou nacionais.
6. Mantenha as mãos e os pés afastados das partes móveis. Se possível, não faça ajustes com o motor a trabalhar.

5.2 MOTOR

IMPORTANTE: Com este veículo, em separado, é fornecido um Manual do Motor preparado pelo fabricante. Leia-o cuidadosamente até se familiarizar com o funcionamento e manutenção do motor. A atenção adequada às instruções do fabricante do motor assegurará a maior vida útil do motor. Para encomendar mais manuais do motor, contacte o fabricante.

A rodagem adequada de um motor poderá representar uma diferença considerável no seu desempenho e vida útil.

AVISO

O veículo foi concebido para trabalhar de forma mais eficaz com as configurações de fábrica do regulador de velocidade. Não altere os parâmetros do regulador de velocidade nem exceda o limite do regime do motor.

Durante a rodagem, a Jacobsen recomenda o seguinte:

1. Durante as primeiras 50 horas de funcionamento, o novo motor deverá poder atingir uma temperatura de funcionamento de, pelo menos, 60° C antes de trabalhar com a carga máxima.
2. Verifique o nível de óleo do motor duas vezes por dias durante as primeiras 50 horas de utilização. Não é raro darem-se consumos de óleo superiores ao habitual durante a rodagem.
3. Mude o óleo do motor e o filtro após as primeiras 35 horas de funcionamento. Veja as Secções 4.5, 4.6, 4.7 e 4.8.
4. Verifique e afine as correias da bomba hidráulica e do alternador.
5. Consulte a Secção 7.3 e o Manual do Motor para conhecer os intervalos específicos de manutenção.
6. Se a bomba injectora, os injectores ou o sistema de combustível necessitarem de assistência técnica, contacte um revendedor autorizado Jacobsen.

Mantenha o motor limpo. Se se tiver acumulado sujidade no motor, deverá ser lavada com um solvente não-inflamável ou um detergente forte.

Quando a lavagem se tornar necessária, deverá ser executada durante a assistência técnica do veículo.

Para manter o desempenho do motor fiável, deverá ser cumprido um calendário regular de verificação e manutenção. A manutenção apropriada prolonga a vida do motor e evita desgastes prematuros.

5.3 ÓLEO DE MOTOR

Verifique diariamente o nível do óleo antes de colocar o motor a trabalhar.

Para verificar o nível do óleo do motor, retire a vareta e limpe-a com desperdício limpo. Torne a inseri-la até que entre em contacto com o tubo do óleo, retire-a e leia o nível.

O nível do óleo correcto situa-se a meio das marcas ATESTAR e CHEIO da vareta. Se o nível do óleo estiver abaixo da marca ATESTAR da vareta, retire a tampa e acrescente óleo até se situar entre as marcas. *Não encha demasiado.*

NOTA: *Se o motor estiver quente, permita que arrefeça (desligado) deixando o óleo assentar para se obter uma leitura correcta.*

Motor a Diesel: Utilize apenas óleos de motor com a classificação API CD ou CE.

Motor a Gasolina: Utilize apenas óleos de motor com a classificação API SJ.

Se utilizar outro óleo, além do indicado, ou os intervalos de mudança de óleo forem mais longos do que o recomendado, a vida do motor poderá reduzir-se. Os danos no motor devidos a manutenção inadequada ou à utilização de óleos de qualidade e/ou viscosidade incorrecta não são abrangidos pela garantia.

Motor a Diesel: Mude o óleo após as primeiras 35 horas; depois, a cada 75 horas ou de dois em dois meses. Ver manual do motor.

Motor a Gasolina: Mude o óleo após as primeiras 50 horas; depois, a cada 100 horas ou de três em três meses. Ver manual do motor.

Perdas significativas de óleo podem danificar o motor. Perdas de óleo consideráveis poderão dever-se a um bujão solto ou incorrectamente instalado, juntas gastas ou mesmo a um filtro de óleo solto.

Os bujões localizam-se debaixo do motor, no cárter. Retire ambos os bujões ao mudar o óleo.

Verifique se os bujões e o óleo têm limalhas de metal, o que poderia indiciar danos no motor. Substitua imediatamente os bujões com juntas danificadas.

Após o óleo ter escorrido completamente, limpe o excesso do cárter e do bujão. Instale os bujões e aperte firmemente. Consulte o manual do motor para conhecer o aperto adequado.

Substitua sempre o filtro do óleo de motor ao mudar o óleo. Aplique uma ligeira camada de óleo à rosca de borracha do novo filtro de óleo antes da instalação.

Motor a Diesel: Encha o motor Kubota com aproximadamente 5,1 l de óleo novo de motor. Verifique o nível de óleo e acrescente óleo, se necessário.

Motor a Gasolina: Encha o motor Suzuki com aproximadamente 3 l de óleo novo de motor. Verifique o nível de óleo e acrescente óleo, se necessário.

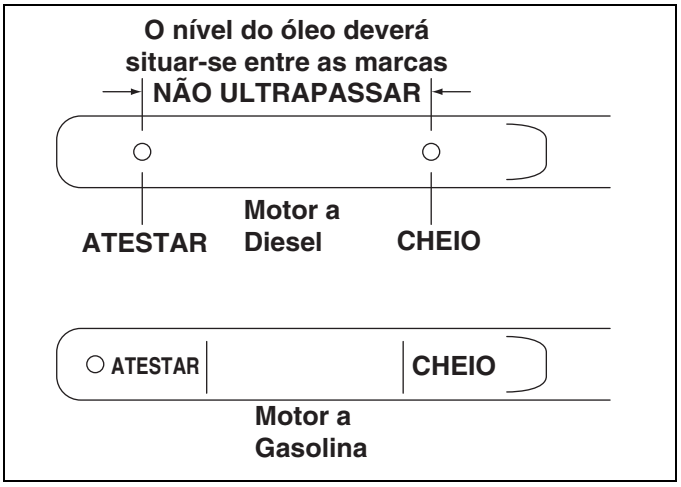


Figura 5A

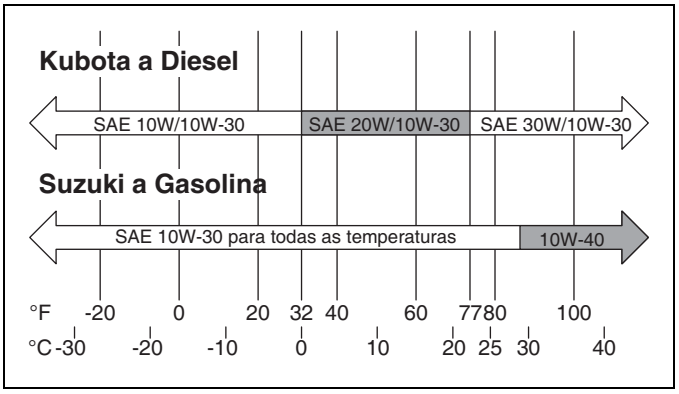

Kubota a Diesel
SAE 10W/10W-30
SAE 20W/10W-30
SAE 30W/10W-30
Suzuki a Gasolina
SAE 10W-30 para todas as temperaturas
10W-40
°F -20 0 20 32 40 60 77 80 100
°C -30 -20 -10 0 10 20 25 30 40

Figura 5B

Motor a Diesel:	
Acima de 25° C	SAE 30W or SAE10W30/10W40
0 - 25° C	SAE 20W ou SAE10W30/10W40
Abaixo de 0°C	SAE 10W ou SAE10W30/10W40
Motor a Gasolina:	
Todas as temperaturas	SAE 10W30
Acima de 30° C	SAE 10W 40

Substituição dos filtros de óleo

Kubota a Diesel	4113986
Suzuki a Gasolina	2701908

5.4 RESERVATÓRIO DA DIRECÇÃO ASSISTIDA

⚠ ATENÇÃO

Antes de qualquer intervenção de assistência ou de manutenção em redor da zona do motor, assegure-se que este arrefeceu. Podem resultar queimaduras graves em caso de o motor ou as superfícies circundantes estarem quentes.

O reservatório do líquido da direcção assistida localiza-se do lado direito do motor, abaixo do alternador.

O nível do reservatório deverá ser verificado após as primeiras 35 e 70 horas. Após isso, o nível deve ser verificado a cada 100 horas.

Ao verificar o nível do fluido antes de motor estar quente, este deverá situar-se na marca FRIO da vareta. Ao verificar o nível do fluido com o motor quente, este deverá situar-se entre a marca FRIO e QUENTE da vareta. Use líquido de direcção assistida da General Motors para atestar o fluido ao nível adequado.

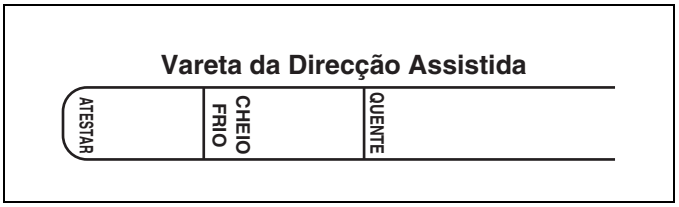


Figura 5C

5.5 TUBO E PANELA DE ESCAPE

⚠ ATENÇÃO

Os fumos de escape contêm monóxido de carbono, que é tóxico, e pode ser fatal quando inalado.

NUNCA utilizar um motor sem uma ventilação adequada.

Para se proteger de envenenamento por monóxido de carbono, inspeccione o sistema de escape regularmente e substitua sempre as panelas defeituosas.

Se notar alguma alteração na cor ou no som de escape, pare imediatamente o motor. Identifique o problema e repare o sistema.

Aperte equilibradamente todas as válvulas do distribuidor. Aperte ou substitua os fixadores do tubo de escape.

5.6 PROCEDIMENTO NO SOBREAQUECIMENTO DO MOTOR

Durante a utilização do veículo, se o manómetro da temperatura da água indicar 110° C ou superior e o sinal sonoro de sobreaquecimento se ouvir, siga este procedimento.

1. ***Pare*** o veículo. **NÃO desligue o motor**. Coloque o veículo em ponto-morto e active o travão de estacionamento.
2. Desengate imediatamente quaisquer acessórios que estejam a funcionar.
3. Deixe motor em velocidade alta de ponto-morto.
4. Remova a sujidade, detritos, etc., da entrada de ar do radiador localizada do lado direito do veículo.

⚠ CUIDADO

Tenha cuidado ao abrir o acesso ao motor ou na limpeza da entrada de ar. As superfícies metálicas perto do radiador e do motor poderão estar quentes demais para o toque. Use uma escova ou luvas para limpar a entrada de ar.

O manómetro da temperatura deverá começar a descer aproximadamente 30 segundos após a entrada de ar ter sido desobstruída. Se a temperatura não baixar, PARE o motor e verifique o seguinte.

1. Verifique se a ventoinha de arrefecimento está a funcionar. A ventoinha deve rodar para temperaturas do refrigerante superiores a 82º C em motores Diesel e a 97,7º C em motores a gasolina, mesmo com o interruptor da ignição OFF (desligado).
2. Verificar o nível do óleo do motor.
3. Verifique se há alguma fuga no sistema de refrigeração. **Não** abra o radiador quando este estiver quente. Verifique o refrigerante após o sistema arrefecer completamente.

A inobservância destas precauções depois do aviso de sobreaquecimento causará danos permanentes ao motor.

5.7 SISTEMA DE ARREFECIMENTO

Este veículo está equipado com um radiador, uma ventoinha de controlo da temperatura, manómetro de temperatura e um aviso sonoro de sobreaquecimento.

⚠ ATENÇÃO

Para evitar ferimentos sérios devidos a refrigerante quente ou a uma descarga de vapor, nunca tente retirar o tampão do radiador quando o motor estiver a trabalhar. Pare o motor e aguarde várias horas até que arrefeça. Mesmo nessa altura, tenha o máximo de cuidado ao retirar o tampão.

⚠ CUIDADO

Não coloque água fria num radiador quente. Não colocar o motor a trabalhar sem uma mistura refrigerante adequada. Instale a tampa e aperte-a firmemente.

⚠ ATENÇÃO

A ventoinha de arrefecimento é controlada por um interruptor de temperatura e poderá arrancar a qualquer momento sempre que a temperatura exceder os 65° C, mesmo com a chave de ignição na posição OFF (desligado). Nunca tente intervenções técnicas no sistema de arrefecimento sem ter desligado primeiro o pólo negativo da bateria ou retirar o fusível da ventoinha.

NUNCA acrescente directamente um anticongelante ao radiador. Misture quantidades iguais de água limpa com um anticongelante à base de etileno glicol num recipiente em separado antes de acrescentá-la ao sistema de arrefecimento. Não exceda uma quantidade superior a 50% de anticongelante.

Recicle ou elimine sempre de forma responsável os anticongelantes usados. O anticongelante usado pode ser prejudicial ao ambiente.

1. Verifique diariamente o nível de refrigerante. O radiador deverá estar cheio e a garrafa de recuperação deverá esta na marca **frio**.
   a. Incline o capô para aceder ao radiador.
   b. Com o motor parado e frio, retire o tampão do radiador e verifique o nível de refrigerante. O nível do refrigerante deverá situar-se perto de 6 mm do bocal de enchimento. Encha com uma mistura de 50/50 de anticongelante e de água, se necessário.
   c. Verifique visualmente o reservatório. O nível do refrigerante deverá situar-se perto da linha **CHEIO**, mas a menos de 4 polegadas (102 mm). Encha com uma mistura de 50/50 de anticongelante e de água, se necessário.
2. Drene e reencha o sistema de refrigeração a cada 400 horas ou 9 meses, conforme o que atinja primeiro. Deixe o motor arrefecer antes de drená-lo.
   a. Retire o fusível da ventoinha de arrefecimento.
   b. Retire o tampão do radiador.
   c. Abra o dreno do bloco do motor e o dreno do radiador. Retire a mangueira inferior do radiador. Feche ambos os drenos e instale a mangueira inferior do radiador depois de o sistema drenar completamente.
   d. Esvazie e limpe a garrafa de recuperação.
   e. Encha até ao fundo do atestador com uma mistura de 50/50 de anticongelante e de água.
   f. Encha o frasco da recuperação na marca cheio com uma mistura de 50/50 de anticongelante e de água.
3. Mantenha as passagens de ar do radiador limpas. Use ar comprimido (207 kPa no máximo) para limpar as aletas. A água residual entre as aletas absorverá sujidade e reduzirá a quantidade do fluxo de ar necessário ao devido arrefecimento do motor.
4. Papa proporcionar um fluxo de ar adequado, não obstrua a entrada de ar no lado direito do veículo. Mantenha a entrada de ar desimpedida.
5. Verifique e aperte a correia da ventoinha. Substitua os fixadores e as mangueiras de dois em dois anos.
6. Se precisar de acrescentar refrigerante mais de uma vez por mês, ou acrescentar mais de um quarto de cada vez, solicite a um revendedor autorizado Jacobsen que verifique o sistema de refrigeração.

5.8 FILTRO DO AR

Não retire o elemento para inspeccioná-lo ou limpá-lo. A remoção desnecessária do filtro aumenta o risco de injecção de poeiras e outras impurezas ao motor.

Quando for necessária qualquer intervenção técnica, limpe primeiro a parte de fora do filtro; depois, retire o elemento velho tão suavemente quanto possível e elimine-o devidamente.

1. Limpe cuidadosamente a parte interior do filtro sem permitir que entre pó na entrada de ar.
2. Inspeccione o novo elemento. Não utilize nenhum elemento danificado nem incorrecto.
3. Monte o novo elemento e assegure-se de que se fixa devidamente.
4. Torne a montar a tampa assegurando-se de que veda totalmente em redor do encaixe do filtro. O evacuador de poeiras **(A)** deverá estar virado para baixo.
5. Verifique todas as mangueiras e condutas de ar. Aperte os fixadores das tubagens.

Substituição (apenas gasóleo)

1. Limpe o exterior da carcaça do filtro, em especial em torno da tampa e das ligações das mangueiras.
2. Registe a localização das mangueiras. Desaperte as braçadeiras das mangueiras e remova ambas as mangueiras do filtro do ar. Tenha cuidado para evitar que pó ou outros resíduos entrem na mangueira de admissão do motor.
3. Remova o equipamento de montagem do filtro do ar **(B)**. O filtro do ar encontra-se fixo através de um único parafuso e porca.
4. Eleve o conjunto do filtro do ar do veículo.
5. Puxe as braçadeiras de retenção e remova o elemento antigo o mais cuidadosamente possível e elimine-o.
6. Limpe cuidadosamente a parte interna da carcaça do filtro sem deixar entrar poeiras na entrada de ar.
7. Inspeccione o novo elemento. Não utilize um elemento danificado e nunca use um elemento incorrecto.
8. Monte o novo elemento e certifique-se de que ele está instalado adequadamente.
9. Coloque a tampa certificando-se de que ela fica completamente vedada em torno da carcaça do filtro. O evacuador de poeiras **(A)** deverá estar virado para baixo.
10. Instale o conjunto do filtro do ar no veículo. Fixe com o equipamento **(B)**.
11. Ligue ambas as mangueiras e aperte as braçadeiras das mangueiras.

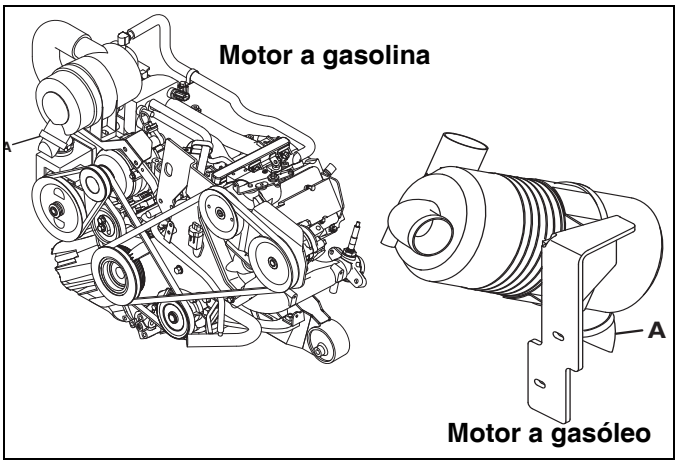


Figura 5D

5.9 ARRANQUE INDUZIDO

Antes de tentar fazer pegar o veículo de empurrão, verifique o estado da bateria descarregada.

Accione o travão de estacionamento de ambos os veículos, coloque a caixa de velocidades em ponto-morto e desligue todas as cargas eléctricas.

⚠ ATENÇÃO

Baterias libertam gás hidrogénio, que é explosivo. Para reduzir o risco de explosão, evite produzir centelhas próximo à bateria. Ligue sempre o cabo negativo de ligação directa à estrutura do tractor com a bateria descarregada, afastado da bateria.

Ao ligar cabos de ligação directa:

1. Desligue o motor no veículo com uma bateria em bom estado.
2. Ligue o cabo VERMELHO de ligação directa ao terminal positivo (+) na bateria em bom estado e ao terminal positivo (+) na bateria “descarregada”.
3. Ligue o cabo PRETO de ligação directa proveniente do terminal negativo (-) da bateria em bom estado à estrutura do tractor que está com a bateria descarregada.

Depois de os cabos terem sido ligados, arranque o motor no veículo com a bateria em bom estado e em seguida arranque o tractor.

5.10 BATERIA

Tenha a certeza absoluta de que a ignição está desligada e de que a chave foi retirada antes de qualquer intervenção na bateria.

⚠ CUIDADO

Use sempre ferramentas isoladas, use óculos e roupa de protecção ao trabalhar nas baterias. Deverá ler e respeitar todas as instruções do fabricante da bateria.

Aperte devidamente os cabos aos terminais da bateria e aplique uma ligeira camada de massa dieléctrica de silicone aos terminais para evitar a corrosão. Mantenha todas as tampas no seu devido lugar.

Mantenha a parte de cima da bateria limpa e livre de corrosão lavando-a com uma solução de bicarbonato de sódio e água. Lave com água limpa.

Verifique a polaridade da bateria antes de ligar ou desligar os cabos.

1. Ao instalar uma nova bateria, instale sempre o cabo VERMELHO positivo (+) primeiro e o de terra, PRETO, negativo (-) em último lugar.
2. Ao retirar uma bateria, retire sempre o cabo PRETO de terra, negativo (-) primeiro e o VERMELHO, positivo (+) em último lugar.
3. Assegure-se de que a bateria é devidamente instalada e fixa ao seu suporte.

⚠ ATENÇÃO

A bateria, os terminais e os acessórios relacionados contêm chumbo e seus compósitos, químicos reconhecidos pelo Estado da Califórnia como causadores de cancro e problemas de reprodução. **Lave as suas mãos após manuseá-los.**

5.11 CARREGAR A BATERIA

⚠ ATENÇÃO

Carregue a bateria numa área bem ventilada. Baterias emitem gases explosivos. Para evitar explosão, mantenha chamas afastadas da bateria.

Para evitar lesões, fique afastado da bateria quando o carregador estiver ligado. Uma bateria danificada pode explodir.

1. Consulte o ponto 5.10. Leia o Manual da Bateria e o Manual do Carregador para instruções específicas.
2. Sempre que possível, remova a bateria do tractor antes de a carregar. Se a bateria não for selada, verifique se o electrólito recobre os elementos em todas as células.

Os cabos da bateria deverão ser desligados antes de usar um “carregador rápido” ou poderão resultar danos no alternador.

3. Certifique-se de que o carregador está “Desligado”. Em seguida, ligue o carregador aos terminais da bateria conforme especificado no Manual do Carregador.
4. Desligue sempre o carregador antes de desligar o carregador dos terminais da bateria.

5.12 MANGUEIRAS HIDRÁULICAS

⚠ ATENÇÃO

Para evitar lesões graves provocadas por óleo quente a alta pressão, nunca use as mãos para verificar fugas de óleo; utilize papel ou papelão.

Fluido hidráulico em fuga sob pressão pode ter força suficiente para penetrar através da pele. Se houver penetração de fluido na pele ele deve ser removida cirurgicamente dentro de poucas horas por um médico especializado neste tipo de lesão, caso contrário poderá resultar em gangrena.

1. Baixe sempre os utensílios até ao solo, desengate todos os accionadores, engrene o travão de estacionamento e retire a chave antes de inspeccionar ou desligar linhas ou mangueiras hidráulicas.
2. Verifique mangueiras e tubos visíveis diariamente. Observe se não há mangueiras húmidas ou manchas de óleo. Substitua mangueiras e tubos gastos ou danificados antes de usar a máquina.
3. Ao substituir tubos ou mangueiras, instale-as na mesma posição que as anteriores; não desloque braçadeiras, suportes e presilhas para uma nova posição.
4. Inspeccione completamente todos os tubos, mangueiras e conexões a cada 250 horas.

IMPORTANTE: O sistema hidráulico pode ser permanentemente danificado se o óleo ficar contaminado. Antes de desligar qualquer componente hidráulico, limpe a área em torno dos encaixes e das extremidades das mangueiras para que impurezas não penetrem no sistema.

a. Antes de desligar qualquer componente hidráulico, coloque uma etiqueta ou marque a localização de cada mangueira; depois, limpe a área em torno dos encaixes.

b. Quando desligar o componente, esteja preparado para colocar tampões e tampas nas extremidades das mangueiras e nos orifícios abertos. Isto impedirá a penetração de impurezas dentro do sistema e também evitará derrames de óleo.

c. Certifique-se de que os O-Ring estão limpos e de que os encaixes das mangueiras estão adequadamente assentados antes de apertar.

d. Não deixe as mangueiras ficarem torcidas. Mangueiras torcidas podem provocar afrouxamento dos acoplamentos quando a mangueira flexionar durante a operação, resultando em vazamentos de óleo.

e. Mangueiras dobradas ou torcidas podem restringir o fluxo de óleo fazendo com que o sistema funcione deficientemente e o óleo sofra sobreaquecimento, podendo também provocar falhas da mangueira.

5.13 RESERVATÓRIO HIDRÁULICO E FILTRO

Consulte a Secção 7.3 para conhecer os intervalos específicos de manutenção.

Em condições normais, o sistema hidráulico não necessita de fluido adicional. Por vezes, poderá haver fugas o que origina reparações no sistema e uma reposição do nível. Se notar uma fuga hidráulica quando o sistema estiver a ser usado ou se suspeitar de uma fuga, **desligue todas as funções hidráulicas e pare o motor**.

Verifique periodicamente o nível de fluido hidráulico (deverá fazer-se a cada **100 horas** de funcionamento). A perda de fluido poderá ser sinal de uma perda de fluido antes de se tornar um problema.

Para verificar o nível do fluido:

1. Coloque o veículo está numa superfície firme e nivelada. Baixe totalmente qualquer acessório, incluindo a caixa de carga. Pare o motor do veículo.
2. Retire a vareta/tubo respirador do topo do reservatório. Limpe a vareta e torne a inseri-la no tanque com a extremidade roscada a ficar no tanque (não a aparafuse); o fluido deverá revelar-se na parte estriada da vareta. Adicione fluido GreensCare 68 conforme necessário.

O sistema hidráulico encontra-se protegido por um filtro de 10 microns. O filtro localiza-se debaixo da consola lateral, perto da alavanca do travão de estacionamento.

Para substituir o filtro de óleo da unidade hidráulica:

1. Retire o filtro antigo.
2. Encha o novo filtro com fluido GreensCare 68 e instale-o. Aperte à mão, apenas.
3. Coloque o motor a funcionar em ponto-morto com o sistema hidráulico em ponto-morto durante cinco minutos.
4. Verifique o nível do óleo hidráulico e ateste com GreensCare 68 até à parte estriada.

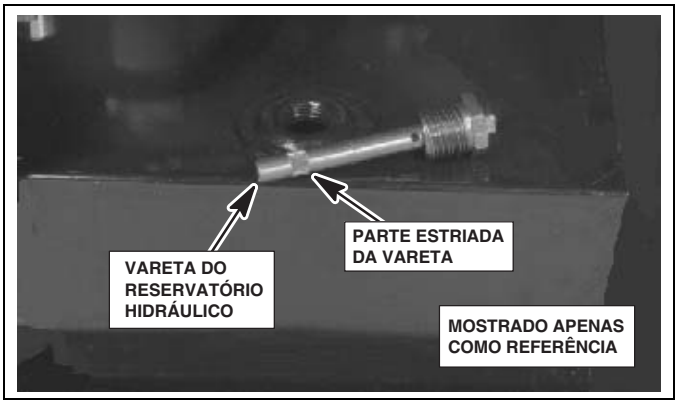


Figura 5E

5.14 COMBUSTÍVEL

Manuseie com cuidado o combustível: é altamente inflamável. Use um recipiente apropriado, a ponteira de enchimento deverá entrar completamente no gargalo de enchimento de combustível. Evite a utilização de latas e de funis para transferir combustível.

⚠ ATENÇÃO

Retire lentamente o tampão do reservatório de combustível. O combustível poderá estar sob pressão. A sua aspersão poderá causar ferimentos graves.

Nunca retire o tampão do reservatório de combustível nem acrescente combustível quando o motor estiver em funcionamento ou enquanto estiver quente.

Não fume ao manusear combustível. Nunca encha o depósito de combustível em recintos fechados.

Não derrame combustível e limpe imediatamente qualquer combustível derramado.

Nunca manuseie ou armazene contentores de combustível perto de chamas ou de qualquer aparelho que possa criar faíscas e incendiar o combustível ou os seus gases.

Assegure-se de que reinstala e aperta firmemente o tampão do depósito de combustível.

1. Encha o reservatório de combustível a 25 mm do bocal de enchimento.
2. Armazene o combustível de acordo com regulamentos locais, regionais e nacionais e as recomendações do seu fornecedor de combustível.
3. Nunca encha demasiado o depósito ou permita que fique totalmente vazio. Verifique o nível de combustível rodando a ignição para a posição ON (ligado) e lendo o nível indicado no manómetro do combustível.
4. Verifique as linhas de combustível e os fixadores a cada 50 horas. Substitua as linhas de combustível e os fixadores ao primeiro sinal de desgaste.
5. O reservatório de combustível tem a capacidade de 24,5 l. Encha o depósito de combustível seguindo as seguintes recomendações:

   Motor a Diesel:

   a. Use gasóleo limpo, novo, nº 2, de enxofre baixo ou ultra baixo. Classificação mínima de cetano 45. Consulte o Manual do Motor para informação adicional.
   b. Use gasóleo nº 1 limpo e recente quando a temperatura estiver abaixo de -7° C. Se o combustível nº1D não estiver disponível, poderão estar disponíveis misturas de Inverno de nº1D e nº2D. Este combustível misturado é normalmente designado por nº2D e poderá ser usado em climas frios. Não use nº2D excepto quando tiver a certeza de que foi ***preparado para o inverno***. As baixas temperaturas poderão originar o seu engrossamento, o que impedirá o andamento do seu veículo.
   c. **NÃO** utilizar combustível de aviação JP4. Consulte o Manual do Motor para informações adicionais.

   Motor a Gasolina: Use gasolina limpa e recente sem chumbo, de 87 octanas ou superior.

AVISO

O uso de combustível com mais de 10 % de etanol pode danificar o sistema de controlo de emissões do motor e, portanto, invalidar a garantia relativa a emissões por acção inadequada do operador.

5.15 SISTEMA DE COMBUSTÍVEL

Consulte a Secção 7.3 para conhecer os intervalos específicos de manutenção.

Antes de substituir qualquer filtro, limpe criteriosamente o interior do alojamento do filtro e a área em redor do filtro. Não deverá permitir-se a entrada de impurezas no sistema de combustível.

Rode o interruptor de chave para a posição ON (ligado) para ligar a bomba de combustível e purgue o sistema de combustível se o filtro e as linhas tiverem sido desmontadas, ou se o reservatório tiver esvaziado.

5.16 PRESSÃO DOS PNEUS

Mantenha os pneus devidamente cheios para prolongar-lhes a vida útil. Verifique a pressão de enchimento quando os pneus estão frios. Verifique o desgaste dos pneus.

Uma pressão mais baixa ajudará a evitar rastos em terrenos macios. Poderá ser necessária uma pressão mais elevada para cargas maiores. A pressão dos pneus traseiros deverá ser de 193 kPa ao trabalhar à carga máxima. *Nunca* exceda a pressão máxima indicada no pneu.

Verifique a pressão com um manómetro preciso de baixa pressão. Devido ao baixo volume de ar necessário, o sobre-enchimento pode ocorrer em dois ou três segundos.

Mantenha os pneus nas seguintes pressões:

À frente – 138 kPa

Atrás – Variável, determinada pela carga. (Ver tabela).

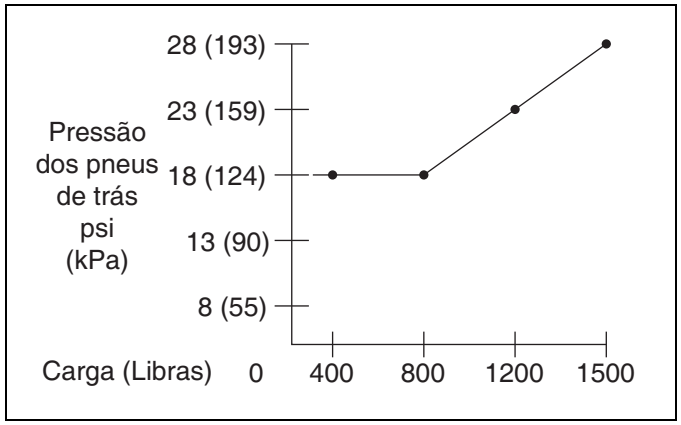


Figura 5F

5.17 REMOÇÃO/INSTALAÇÃO DOS PNEUS

Remoção:

1. Estacione o veículo numa superfície firme e nivelada. Accione o travão de estacionamento, desligue o motor e engrene a primeira velocidade.
2. Consulte a **Secção 5.18** para conhecer o procedimento de elevação correcto. Use sempre os apoios de elevação e nunca dependa apenas do macaco para apoio.

   Eleve o veículo o suficiente para retirar o pneu. Nunca coloque as suas mãos, pés ou qualquer outra parte do corpo sob o veículo ao elevá-lo.
3. Retire as porcas da roda e retire a roda do cubo.
4. Execute a assistência necessária ao pneu.

⚠ CUIDADO

NÃO tente instalar um pneu numa jante excepto se detiver a experiência e as ferramentas necessárias. A instalação indevida poderá resultar numa explosão, originando lesões sérias.

Instalação:

1. Elimine a sujidade, a gordura e o óleo do rasto do pneu. Não lubrifique o rasto.
2. Posicione a roda no cubo e verifique se há um contacto total entre a superfície de montagem e o cubo ou o tambor do travão. Assegure-se de que a válvula fica para o lado de fora. Aperte à mão todas as porcas e depois com a ajuda de uma chave, por ordem cruzada; aperte as porcas sempre a partir de cima.
3. Verifique e ajuste o aperto diariamente para manter o aperto devido de 95-140 Nm.

5.18 ELEVAR O VEÍCULO.

⚠ ATENÇÃO

Assegure-se de que o veículo está numa superfície firme e nivelada. Nunca se coloque sob um veículo elevado apenas por um macaco. Use sempre suportes de elevação.

Sempre que possível, esvazie o pulverizador antes de elevar o veículo. O líquido em deslocação poderá causar desequilíbrios que afectarão a posição do veículo.

Nunca levante o veículo com o motor a trabalhar ou com alguém sentado no lugar do condutor.

Bloqueie o pneu diagonalmente oposto ao pneu a ser elevado.

Nunca coloque as suas mãos, pés ou qualquer outra parte do corpo sob o veículo ao elevá-lo com um guincho ou indevidamente suspenso por apoio de elevação.

É necessário um macaco de tesouras ou um macaco de chão com uma capacidade (mínima) de 1-1/2 Ton que possa ser rebaixado a 86 mm. Consulte a **Figura 5G** para conhecer os pontos de apoio do macaco.

Engrene a primeira velocidade e accione o travão de estacionamento. Coloque calços ou bloqueie o pneu diagonalmente oposto ao pneu a ser elevado. Eleve o veículo o suficiente para retirar proceder à intervenção necessária.

Eleve o veículo até à altura adequada e coloque os apoios de elevação ou equivalente por debaixo da estrutura perto do macaco. Baixe o macaco e teste a sua estabilidade sobre os apoios de elevação.

Ao usar um guincho para elevar o veículo, use o mesmo procedimento para suportar a estrutura e vloquear os pneus como se se tratasse de um macaco.

Para evitar danos ao veículo ou a acessórios, nunca use um guincho para elevar apenas um dos cantos do veículo. Eleve sempre PARALELAMENTE os cantos dianteiros ou traseiros.

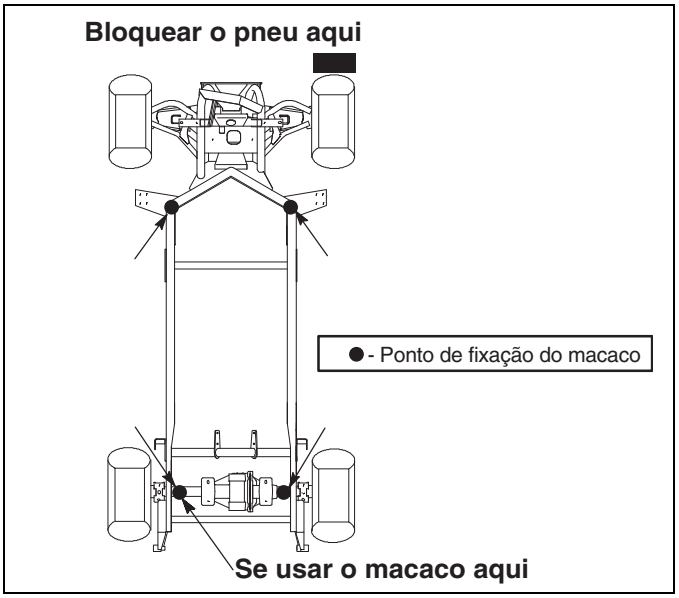


Figura 5G

5.19 REBOCAR O VEÍCULO

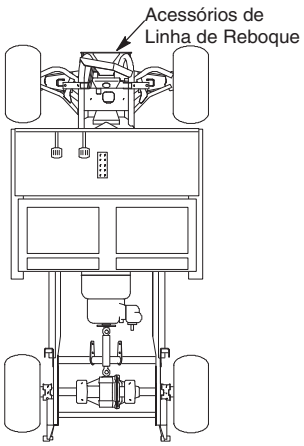
⚠ ATENÇÃO

Para evitar ferimentos graves ou danos no veículo, tenha sempre cuidado com o seguinte:

- **Nunca** acelere ou pare subitamente ao rebocar um veículo.
- **Nunca** mude de direcção abruptamente ou faça curvas apertadas em declives ao rebocar um veículo.
- **Nunca** reboque o veículo a velocidades superiores a 8 km/h. Rebocar a velocidades excessivas poderá causar o descontrolo de qualquer dos veículos.
- Ajuste a sua velocidade às condições da via e meteorológicas quando rebocar (chuva, neve, gelo, sinuosidades, depressões, etc.).
- Use o cuidado quando você carrega ou descarrega a máquina em um reboque ou em um camião.

Se, por qualquer razão, o veículo necessitar de ser rebocado, siga as indicações abaixo.

1. Ao rebocar um veículo com uma corda ou corrente, é necessário um operador para guiar o veículo e para controlar os travões.
2. Ligue uma corda de reboque ao ilhós de engate dianteiro de qualquer dos lados do veículo.
3. Desengrene a transmissão (colocar em ponto-morto) e desengate o travão de estacionamento.
4. Avance devagar o veículo rebocador até que a corda de reboque se estique.
5. Ao rebocar, tente manter a linha de reboque sempre esticada. Tenha cuidado com descidas acentuadas e em curvas.



Um Acessório Frontal de Pára-choques (Nº de peça 894778) encontra-se disponível para ser utilizado com o Truckster. Se estiver montado um pára-choques dianteiro no seu veículo, siga as instruções incluídas no pára-choques para uma ligação segura à corrente ou corda de reboque.

Figura 5H

5.20 NÍVEL DO ÓLEO DO CONTROLADOR DE VELOCIDADE

Apenas motor Suzuki a Gasolina

Verifique o nível do óleo do controlador de velocidade a cada 100 horas de utilização. Para verificar o nível, retire o tampão da parte de trás do controlador. O nível do óleo deverá situar-se ao nível da tampa.

Capacidade do óleo do controlador . . . . . .44 ml
Tipo de óleo . . . . . .Óleo de motor SAE 20W
Caso o nível seja baixo, acrescente o óleo recomendado.

Retire o tampão da parte de trás do controlador, retire o tampão da parte de cima do controlador e acrescente óleo de motor SAE 20W até que este comece a pingar da parte de trás. Substitua ambos os tampões.

Ao substituir os tampões, use uma fita de teflon ou um selante Permatex® 20 (ou selantes de tubos equivalentes) na rosca do tampão.

Aperte os tampões a 10,7 ± 1 Nm.

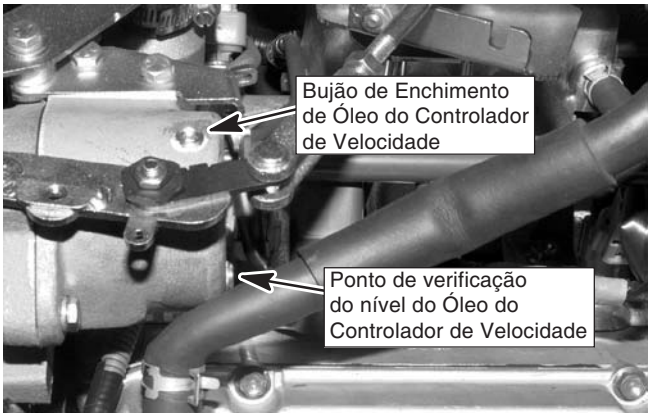


Figura 5I

5.21 TRAVÕES HIDRÁULICOS

⚠ ATENÇÃO

A manutenção descuidada do sistema de travões poderá também resultar na perda de controlo do veículo por parte do utilizador. A perda de controlo do veículo devida à falta de travões poderá originar ferimentos sérios ao utilizador, a pessoas que se encontrem perto do veículo e danos ao veículo.

Este veículo encontra-se equipado com travões hidráulicos às quatro rodas controlados pelo pedal do travão e uma alavanca do travão de estacionamento.

Mantenha o seu sistema de travões limpo e devidamente em ordem. Não utilize a máquina se os travões não pararem devidamente o veículo.

O reservatório do cilindro principal do fluido dos travões está situado por baixo da capota dianteira.

O nível do fluido no reservatório do cilindro principal deverá situar-se entre as marcas MIN (mínimo) e MAX (máximo). Acrescente óleo de travões tipo DOT 3 se necessário.

Se o indicador luminoso do fluido dos travões se acender e permanecer aceso, verifique o nível de fluido no reservatório.

Sangramento dos travões hidráulicos:

Se os travões não travarem devidamente, se os sentir moles ou se o reservatório do fluido dos travões ficar “seco”, poderá ser necessário sangrar o sistema para se retirar o ar.

1. Sangre o sistema de travões pela ordem seguinte: esquerda traseira, direita traseira, direita dianteira e esquerda dianteira.
2. Ligue uma mangueira ao parafuso de sangramento e coloque, na outra extremidade, um recipiente para o fluido que corre ao sangrar o sistema.
3. Sangrar o travão.
   a. Desaperte o parafuso de sangramento.
   b. Peça a alguém que empurre o pedal do travão e o mantenha pressionado.
   c. Aperte o parafuso de sangramento.
   d. Peça a alguém para libertar o pedal.

   Nota: ***Não*** *liberte o pedal do travão até o parafuso de sangramento estar apertado ou será admitido ar nas linhas de travão.*

   e. Repita os passos **a** a **d** as vezes necessárias até que todas as bolhas de ar tenham sido purgadas do sistema e se verifique um fluxo homogéneo de fluido da linha do travão.
   f. Verifique periodicamente o nível do fluido no reservatório. Não permita que o reservatório se esvazie completamente ou será necessário repetir o procedimento de sangramento.
4. Repita o passo 3 para cada travão.
5. A maior parte das comunidades possui um sistema de eliminação para o fluido de travões **DOT 3**. Elimine os fluidos de forma consciente.

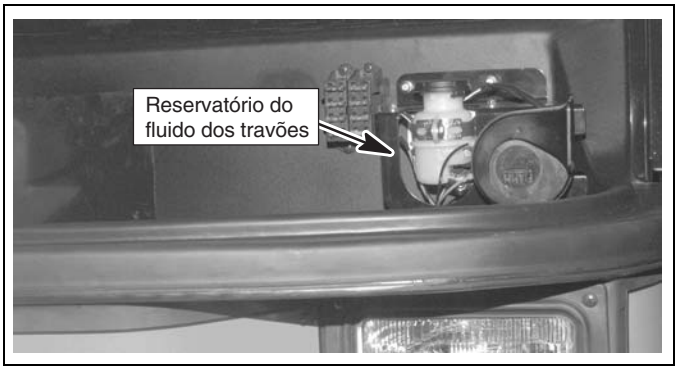


Figura 5J

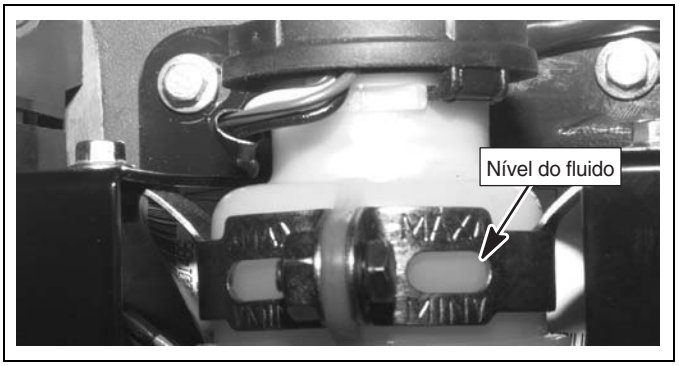


Figura 5K

Figura 5L

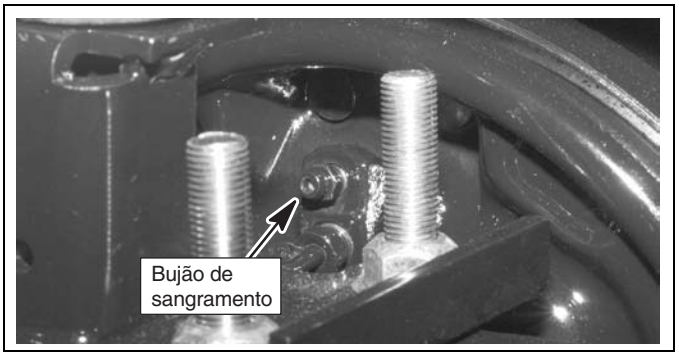


Figura 5M

5.22 FLUIDO DO DIFERENCIAL

O fluido do diferencial deverá ser verificado a 100 horas ou de 3 em 3 meses. O fluido deverá ser mudado após as primeiras 100 horas; depois, a cada 600 horas (ou anualmente).

Capacidade do fluido do diferencial.....2,5 l
Tipo de fluido .....Lubrificante da engrenagem SAE EP 80-90

Para verificar o nível do fluido do diferencial, retire o tampão do bocal de enchimento da parte da frente do diferencial. O fluido deverá estar ao nível do fundo do bocal de enchimento.

Se o fluido estiver em baixo, acrescente lubrificante até que o fluido comece a correr do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Para substituir o fluido do diferencial, retire o tampão do dreno da parte de trás do diferencial.

Permita que o fluido escorra para um recipiente adequado. Elimine o fluido de forma adequada de acordo com as normas locais.

Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Acrescente lubrificante até que o fluido comece a correr do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

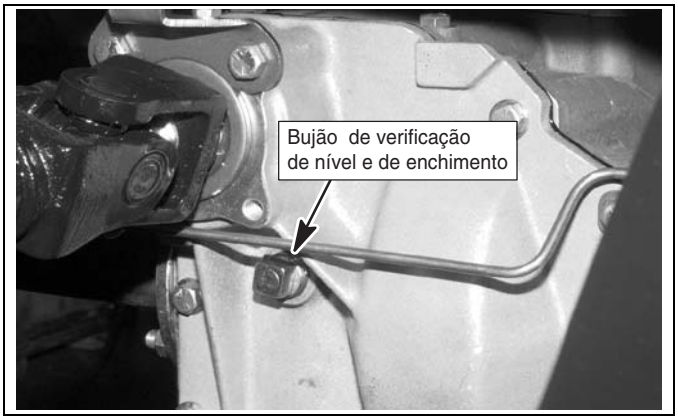


Figura 5N

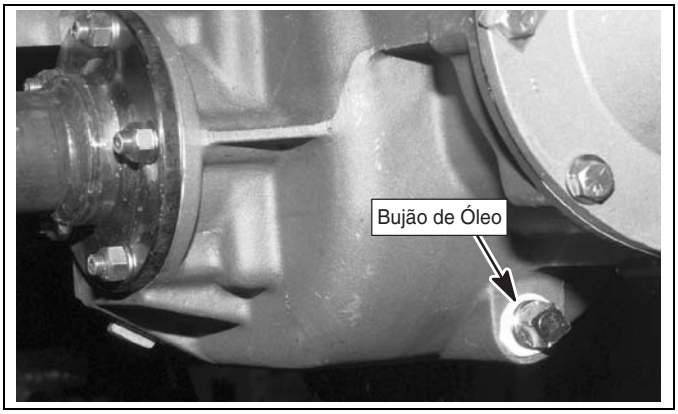


Figura 5O

5.23 TRANSMISSÃO MANUAL DO MOTOR A DIESEL

O fluido da transmissão deverá ser verificado a cada 100 horas ou de 3 em 3 meses. O fluido deverá ser mudado a cada 600 horas (ou anualmente).

Capacidade do fluido do diferencial.... 1,3 l
Tipo de fluido ..... Lubrificante da engrenagem SAE EP 80-90

Para verificar o nível do fluido da transmissão, retire o tampão do bocal de enchimento da parte da frente da transmissão. O fluido deverá estar ao nível do fundo do bocal de enchimento.

Se o fluido estiver em baixo, acrescente lubrificante até que o fluido comece a correr do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Para substituir o fluido, retire o tampão do dreno da parte de trás da transmissão.

Permita que o fluido escorra para um recipiente adequado. Elimine o fluido de forma adequada de acordo com as normas locais.

Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Acrescente lubrificante de transmissão até que o fluido comece a escorrer do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

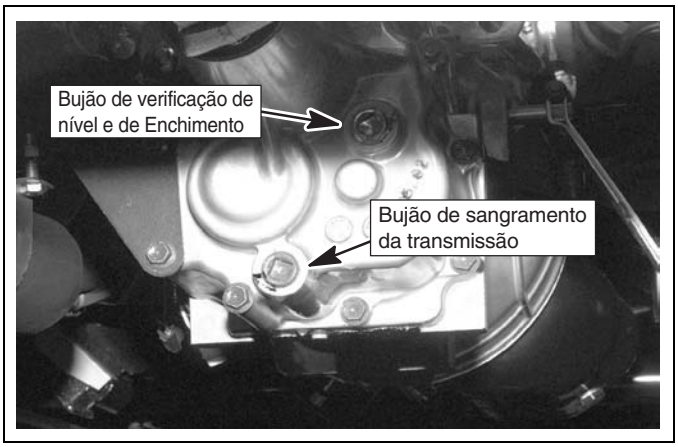


Figura 5P

5.24 TRANSMISSÃO MANUAL DO MOTOR A GASOLINA

O fluido da transmissão deverá ser verificado a cada 100 horas ou de 3 em 3 meses. O fluido deverá ser mudado a cada 600 horas (ou anualmente).

Capacidade do fluido do diferencial..... 1,2 l
Tipo de fluido ..... Lubrificante da engrenagem SAE EP 80-90

Para verificar o nível do fluido da transmissão, retire o tampão do bocal de enchimento da parte da frente da transmissão. O fluido deverá estar ao nível do fundo do bocal de enchimento.

Se o fluido estiver em baixo, acrescente lubrificante até que o fluido comece a correr do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Para substituir o fluido, retire o tampão do dreno da parte de trás da transmissão.

Permita que o fluido escorra para um recipiente adequado. Elimine o fluido de forma adequada de acordo com as normas locais.

Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Acrescente lubrificante de transmissão até que o fluido comece a escorrer do orifício. Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

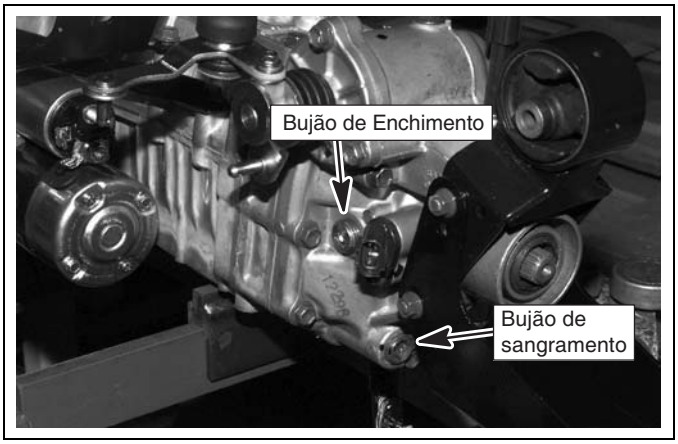


Figura 5Q

5.25 TRANSMISSÃO AUTOMÁTICA DO MOTOR A GASOLINA

O fluido da transmissão deverá ser verificado a cada 100 horas ou de 3 em 3 meses. O fluido deverá ser mudado a cada 600 horas (ou anualmente).

Capacidade do fluido do diferencial..... 4,2 l
Tipo de fluido ..... Mercon / Dextron II

Para verificar o nível do fluido de transmissão, o motor deverá estar em funcionamento. Coloque o selector de marcha na posição “P” PARK, accione o travão de estacionamento e coloque o motor a funcionar.

Com o motor a trabalhar, retire a vareta e limpe-a com um pano limpo. Insira a vareta no tubo extensão até que entre em contacto com ele. Retire a vareta e leia o nível de fluido.

O fluido deverá situar-se entre as duas marcas da vareta. Caso o nível de fluido seja baixo, acrescente até atingir o nível recomendado. ***Não encha demasiado***. Acrescente fluido usando o tubo de extensão como bocal de enchimento.

Para substituir o fluido, retire o tampão do dreno da parte de baixo da transmissão.

Permita que o fluido escorra para um recipiente adequado. Elimine o fluido de forma adequada de acordo com as normas locais.

Aplique um vedante de roscas e instale o tampão do bocal de enchimento.

Ateste a transmissão até que o fluido atinja a marca devida na vareta.

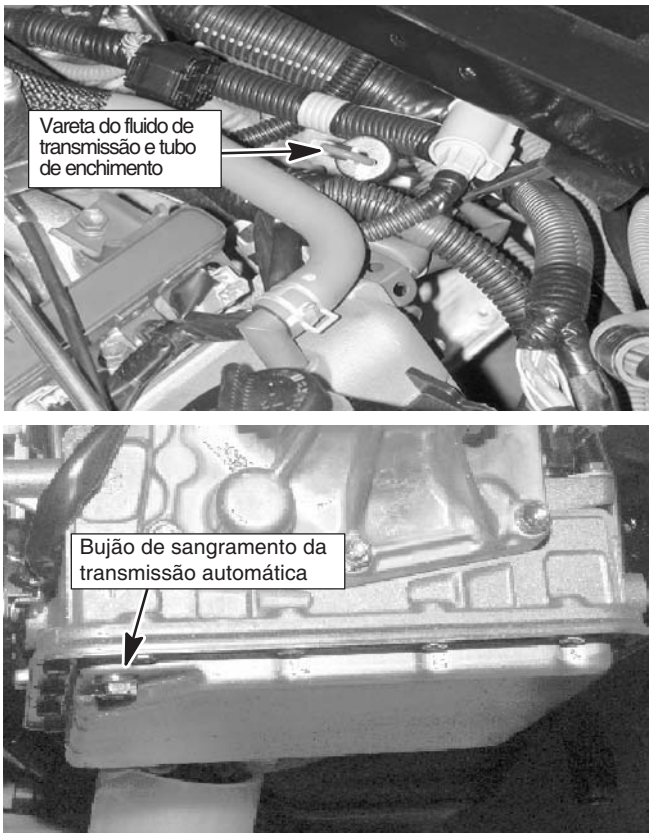


Figura 5R

5.26 SISTEMA ELÉCTRICO

⚠ CUIDADO

Desligue sempre a ignição e retire sempre o cabo preto de terra, negativo (-) antes de inspeccionar ou intervir no sistema eléctrico.

As precauções gerais a ter em conta para reduzir problemas eléctricos encontram-se abaixo.

1. Assegure-se de que todos os terminais e ligações estão limpos e devidamente seguros.
2. Verifique regularmente o sistema Interlock e os fusíveis.

   Se o Interlock não funcionar devidamente e o problema não puder ser reparado, contacte um revendedor autorizado Jacobsen.
3. Mantenha toda a cablagem e fios individuais afastados das peças móveis para evitar danos.
4. Verifique a bateria e o circuito de carga da mesma.
5. Não lave nem aponte pressões de ar perto de ligações ou componentes eléctricos.
6. Os circuitos são protegidos por fusíveis localizados sob a capota frontal e um outro perto da ventoinha de arrefecimento.

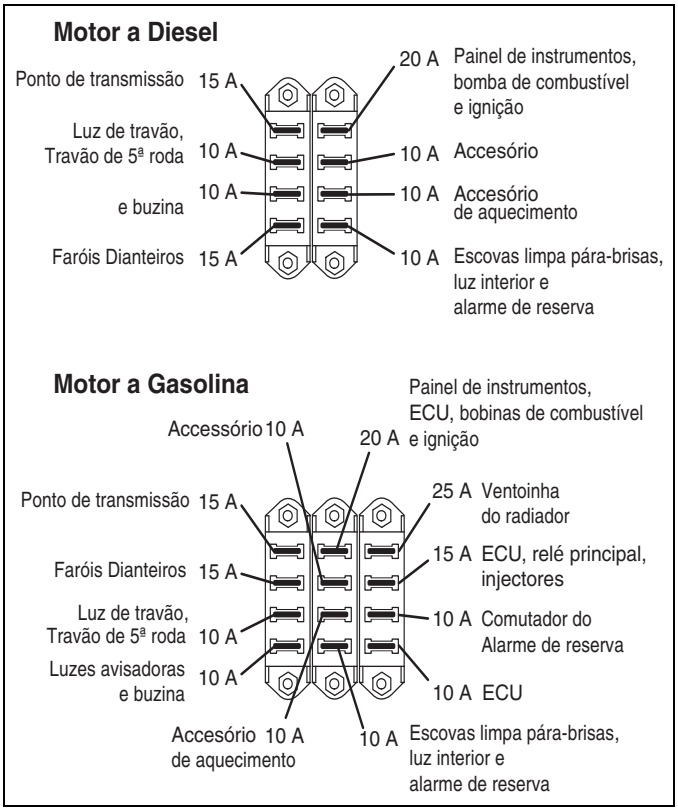

Motor a Diesel
Ponto de transmissão 15 A
Luz de travão, Travão de 5ª roda 10 A
e buzina 10 A
Faróis Dianteiros 15 A
20 A Painel de instrumentos, bomba de combustível e ignição
10 A Accesório
10 A Accesório de aquecimento
10 A Escovas limpa pára-brisas, luz interior e alarme de reserva
Motor a Gasolina
Accessório 10 A
20 A Painel de instrumentos, ECU, bobinas de combustível e ignição
Ponto de transmissão 15 A
Faróis Dianteiros 15 A
Luz de travão, Travão de 5ª roda 10 A
Luzes avisadoras e buzina 10 A
25 A Ventoinha do radiador
15 A ECU, relé principal, injectores
10 A Comutador do Alarme de reserva
10 A ECU
Accesório 10 A de aquecimento
10 A Escovas limpa pára-brisas, luz interior e alarme de reserva

Figura 5S

5.27 PAINEL DE INSTRUMENTOS

O painel de instrumentos contém manómetros e indicadores luminosos para avisar das funções do veículo. A manutenção do painel limita-se à substituição de lâmpadas e à configuração dos interruptores DIP. Retire os quatro parafusos que seguram o painel de instrumentos ao tablier.

Puxe o painel de instrumentos para fora, desligue o conector eléctrico para facilitar o acesso à parte de trás do painel.

Substituição das lâmpadas:

1. Identifique as lâmpadas a serem substituídas.
2. Rode o suporte da lâmpada ¼ de volta no sentido contrário ao dos ponteiros do relógio e afaste-a do painel.
3. Substitua a lâmpada antiga por uma nova de igual tipo.

   Localidade: .....Lâmpadas de substituição
   A Voltímetro C658
   B Manómetro de temperatura..... C658
   C Manómetro do combustível..... C658
   D Temporizador C658
   E Tacómetro C161
   F Pisca à esquerda C161
   G Pressão do óleo do motor.....C161
   H Velas C161
   J Fluido dos travões.....C161
   K Pisca à direita.....C161
   L Travão de estacionamento.....C161
   M Máximos.....C658
   N Alternador / Bateria C161
4. Coloque a lâmpada e o seu suporte novamente no painel. Rode o suporte ¼ de volta no sentido dos ponteiros do relógio para fixá-lo ao painel. Assegure-se de que a base do suporte está devidamente fixa ao painel.

Configuração do Interruptor DIP do Tacómetro:

O painel de instrumentos faz uso de uma sequência codificada do interruptor DIP para identificar os impulsos de entrada por rotação do motor e tipo de motor para exibir correctamente as RPM do motor no tacómetro.

Se estiver a substituir o painel de instrumentos ou se o tacómetro não estiver a funcionar devidamente, verifique se a sequência codificada é a mais correcta.

O Truckster com motor Kubota a diesel tem a seguinte sequência codificada para 10,5 impulsos / rotação.

Código da sequência Kubota a Diesel: 0 0 0 1 0 1 0 0

O Truckster com motor Suzuki a gasolina tem a seguinte sequência codificada para 1,5 impulsos / rotação.

Código da sequência Suzuki a gasolina: 0 0 0 0 0 0 1 0

Através de uma chave de fendas de lâmina pequena ou outra ferramenta equivalente, empurre os selectores para cima ou para baixo até se atingir a sequência adequada a cada motor.

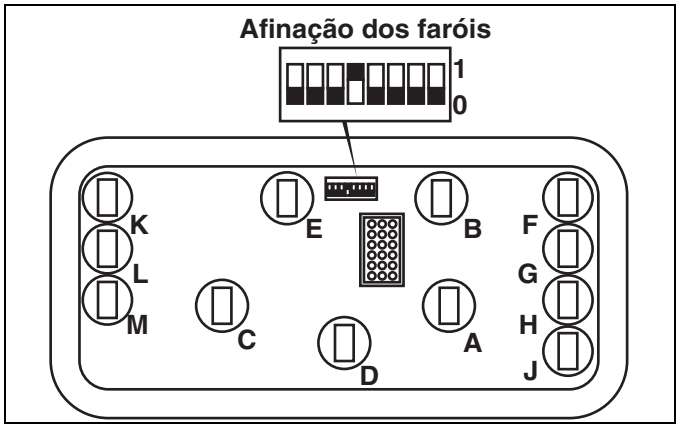


Figura 5T

5.28 SUBSTITUIÇÃO DO FAROLIM DIANTEIRO

O farolim deverá ser substituído o mais depressa possível logo que pare de funcionar ou se danifique. O farolim é uma unidade selada e apenas poderá ser substituído em bloco.

Descrição	Tipo de lâmpada	Nº de peça Jacobsen:
Farolim dianteiro	H6545	837303

1. Desligue o cabo negativo da bateria.
2. Retire os quatro parafusos que seguram o fixador do farol à capota frontal.
3. Puxe o farol e o apoio para a frente, para fora da abertura frontal.
4. Desligue o cabo eléctrico da parte de trás do farol.
5. Retire o farol do fixador. Elimine a lâmpada antiga de forma devida.
6. Instale o novo farol pela ordem inversa à da retirada.

Figura 5U

5.29 SUBSTITUIÇÃO DA LÂMPADA DE LUZ DE PRESENÇA TRASEIRA

A lâmpada de presença traseira deverá ser substituída o mais depressa possível logo que pare de funcionar ou se danifique. A lâmpada traseira e o óculo são componentes substituíveis. Quaisquer danos ao corpo da óptica traseira implicam a sua substituição integral.

Descrição	Tipo de lâmpada	Nº de peça Jacobsen:
Lâmpada de luz de presença traseira	1157	822049

1. Retire os dois parafusos que seguram a óptica. Retire a óptica e o casquilho.
2. Empurre a lâmpada para dentro, rode-a ¼ de volta e retire-a. Elimine a lâmpada antiga de forma devida.
3. Instale a nova lâmpada pela ordem inversa à da retirada. Assegure-se de que o casquilho da lâmpada está devidamente posicionado.
4. Para retirar completamente a óptica traseira, retire as duas porcas e a borracha que isola a óptica do chassis. Desligue a cablagem e retire a óptica traseira do chassis.

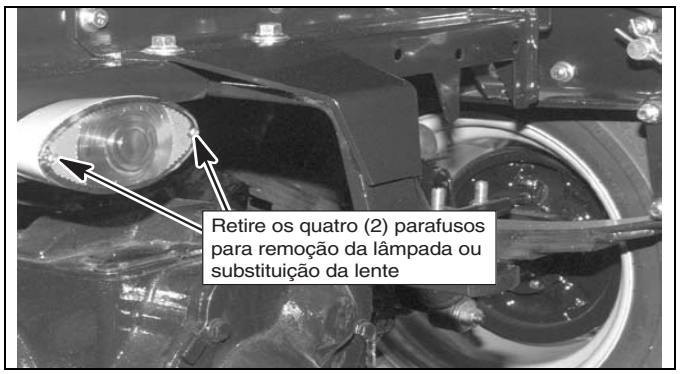


Figura 5V

5.30 VERIFICAÇÃO DO DIAGNÓSTICO EFI

Apenas veículos com motor Suzuki a Gasolina

O sistema eléctrico encontra-se equipado com um conector de diagnóstico OBD-II.

Transmissão Manual: Accione o travão de estacionamento, coloque a caixa de velocidades em ponto-morto e a chave da ignição na posição OFF.

Transmissão Automática: Accione o travão de estacionamento, coloque o selector de velocidades em PARK e a chave da ignição na posição OFF.

Abra a capota frontal e localize o conector OBD-II do suporte do reservatório de fluido dos travões. Ligue um leitor OBD-II em o conector, coloque a chave da ignição na posição ON (não ligue o motor), e consulte as instruções que vêm com o leitor a obter os códigos de diagnóstico.

Consulte o manual de reparações técnico do Truckster para obter descrições de códigos.

5.31 CUIDADOS E LIMPEZA

Lave o tractor e os utensílios após cada utilização. Mantenha o equipamento limpo.

Nota: *Não lave qualquer parte do equipamento enquanto ele estiver quente. Não utilize vaporizadores ou vapor com alta pressão. Use água fria e detergentes para automóveis.*

1. Utilize ar comprimido para limpar o motor e as alhetas do radiador. Uma pistola sopradora encontra-se à disposição no seu distribuidor Jacobsen.
2. Use apenas água para limpar o seu equipamento.

Nota: *A utilização de água salina ou outra poderá originar ferrugem ou corrosão das partes metálicas, de que resulta a sua deterioração ou falha. Os danos desta natureza não estão cobertos pela garantia de fábrica.*

3. Não aplique vaporizadores de água directamente no painel de instrumentos, no interruptor de ignição, no controlador ou em quaisquer outros componentes eléctricos, ou nas carcaças e vedações dos mancais.
4. Limpe todo o acabamento de plástico ou borracha com uma solução fraca de sabão ou utilize detergentes para vinil/borracha disponíveis em estabelecimentos comerciais.

Faça reparações em superfícies de metal danificadas e utilize a tinta para retoques da Jacobsen. Encere o equipamento para protecção máxima da pintura.

⚠ CUIDADO

Limpe relva e detritos dos silenciadore, panelass e do motor para evitar incêndios.

5.32 ARMAZENAMENTO

Generalidades

1. Lave completamente o tractor e lubrifique-o. Repare e pinte partes de metal danificadas ou expostas.
2. Inspeccione o tractor, aperte todas as ferragens, substitua componentes gastos ou danificados.
3. Drene e encha novamente o radiador.
4. Limpe completamente os pneus e armazene o tractor de tal forma que a carga não fique sobre os pneus. Se o tractor não estiver sobre suportes de macaco, verifique os pneus a intervalos regulares e encha conforme necessário.
5. Mantenha a máquina e os seus acessórios limpos, secos e protegidos contra a intempéries durante o armazenamento.

⚠ ATENÇÃO

Nunca armazene equipamento próximo a chamas abertas ou faíscas que possam inflamar combustível ou vapores de combustível.

Bateria

1. Retire, limpe e guarde a bateria em posição vertical numa superfície não condutora (madeira) em local fresco e seco. Para evitar a sua descarga rápida, não a guarde sobre betão ou aço.
2. Verifique e recarregue a bateria a intervalos de 60/90 dias enquanto ela estiver armazenada.
3. Armazene a bateria em local fresco e seco. Para reduzir a taxa de auto-descarga, a temperatura ambiente não deve estar acima de 27° C ou abaixo de -7° C; deve-se evitar que o electrólito congele.

Motor (Generalidades)

1. Quando o motor estiver morno, remova o tampão de drenagem, drene o óleo do cárter e troque o filtro de óleo. Instale o tampão de drenagem e encha com óleo novo. Deixe o motor fresco antes de armazenar.
2. Limpe a parte externa do motor. Pinte partes de metal expostas ou aplique uma leve camada de óleo contra a corrosão.

Adicione um condicionador de combustível ou um biocida para evitar a congelação ou o aparecimento de bactérias no combustível. Consulte o seu fornecedor local de combustíveis.

Se o guardar em recintos fechados, esvazie o depósito de combustível.

Feche a válvula de corte de combustível.

Após o Armazenamento

1. Verifique e reinstale a bateria.
2. Verifique ou faça serviços de inspecção ao filtro de combustível e ao filtro de ar.
3. Verifique o nível de refrigerante do radiador.
4. Verifique o nível de óleo no cárter do motor e no sistema hidráulico.
5. Encha o tanque de combustível com combustível novo. Sangre o sistema de combustível.
6. Remova a mistura do anticongelante da bomba do pulverizador.
7. Encaixe todos os tubos, válvulas anti-pingo, bocais e filtradores.
8. Assegure-se de que os pneus estão devidamente cheios.
9. Ligue e opere o motor a 1/2 do acelerador. Aguarde um período de tempo suficiente para o motor ficar adequadamente aquecido e lubrificado.

⚠ ATENÇÃO

Nunca opere o motor em local onde não haja ventilação apropriada; o fumo do escape pode ser fatal quando inalado.

6.1 GENERALIDADES

A tabela de resolução de problemas apresentada a seguir indica os problemas básicos que podem ocorrer no início e durante o funcionamento. Para obter informações mais detalhadas em relação aos sistemas hidráulico e eléctrico, entre em contacto com o distribuidor Jacobsen da sua área.

Sintomas	Causas possíveis	Acção
O motor não pega.	1. Pedal da embraiagem não pressionado.	1. Verifique o procedimento de arranque.
	2. Bateria com pouca carga ou defeituosa.	2. Verifique o estado da bateria e das suas ligações.
	3. Depósito de combustível vazio ou sujo. Válvula de corte de combustível fechada.	3. Ateste com combustível limpo. Substitua o filtro de combustível Sangre as linhas de combustível. Abra a válvula de corte de combustível.
	4. Fusível queimado.	4. Substitua o fusível.
O motor pega com dificuldade ou tem um desempenho fraco.	1. Nível de combustível baixo, sujidade no combustível ou no filtro de combustível.	1. Ateste com combustível limpo. Substitua o filtro de combustível Sangre as linhas de combustível.
	2. Filtro de ar sujo.	2. Verifique e substitua o filtro de ar.
	3. Injectores, bomba de combustível.	3. Consulte o manual do motor.
	4. Problema com o motor.	4. Consulte o manual do motor.
O motor para.	1. Depósito de combustível vazio.	1. Ateste com combustível limpo e sangre as linhas de combustível.
O motor sobreaquece.	1. O fluido de refrigeração abaixo do nível.	1. Inspeccione e acrescente líquido de refrigeração.
	2. Entrada de ar obstruída.	2. Limpe a entrada de ar.
	3. Correia da bomba de água partida ou frouxa.	3. Aperte ou substitua a correia.
	4. Sobrecarga do motor.	4. Reduza a velocidade.
O veículo não reage ao pedal do acelerador.	1. Travão de estacionamento accionado.	1. Liberte o travão de estacionamento.
	2. Transmissão em ponto-morto.	2. Pressione o pedal do travão e da embraiagem. Mude para a mudança devida para esse tipo de velocidade. Liberte o pedal do travão Levante lentamente a embraiagem ao pressionar o acelerador.
	3. Pedal da embraiagem pressionado.	3. Liberte lentamente o pedal da embraiagem.

7 TABELAS DE MANUTENÇÃO E LUBRIFICAÇÃO

7.1 GENERALIDADES

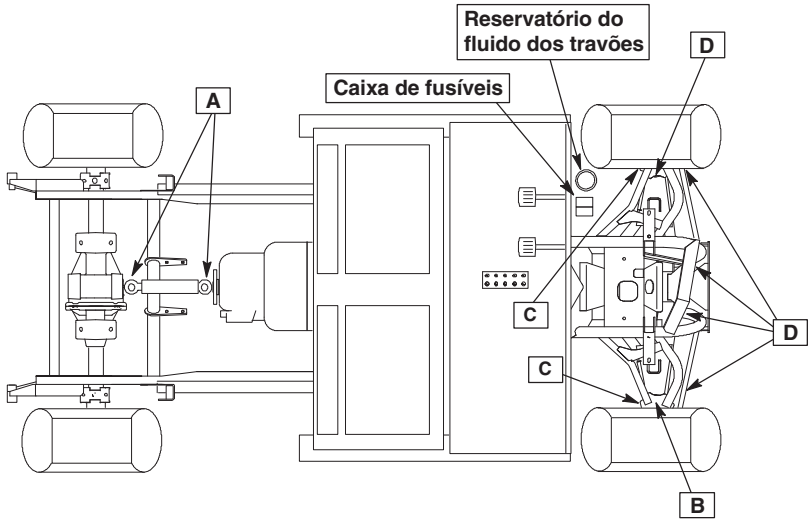
⚠ ATENÇÃO

Antes de limpar, ajustar ou reparar este equipamento, desengate todos os accionadores, baixe os utensílios até ao solo, engrene o travão de estacionamento, desligue o motor e retire a chave da ignição para evitar lesões.

1. Limpe sempre os resíduos de gordura antes e após a lubrificação.
2. Lubrifique com um produto igual ou superior às especificações NLGI Grau 2 LB. Aplique o lubrificante com uma pistola manual e encha suavemente até que o lubrificante comece a exceder. Não use pistolas de ar comprimido.
3. Para operações suaves de todas as alavancas, pontos de dobras ou outros locais sujeitos a fricção não revelados pela tabela de lubrificação, aplique várias gotas de óleo SAE30 de 40 em 40 horas ou de acordo com as necessidades.
4. Lubrifique os orifícios de 100 em 100 horas. Não lubrifique demasiado os orifícios da transmissão **(A)**. Se isto não for observado, o lubrificante danificará os vedantes.

7.2 TABELA DE LUBRIFICAÇÃO

Instalação	Descrição	Qtd
A	Veio da Correia	2
B	Rótulas superiores da Cremalheira	2
C	Rótulas inferiores da Cremalheira	2
D	Pontas da Barra Transversal de Direcção	4



7.3 TABELA DE MANUTENÇÃO

Periodicidade recomendada para assistência e lubrificação

	Diaria-mente	Primei-ras 35 horas	A cada 75 horas ou de 2 em meses	A cada 100 horas ou de 3 em meses	A cada 200 horas ou de 6 em meses	A cada 400 horas ou de 9 em 3 meses	A cada 600 horas ou de 12 em meses	Ver Secção	Tipo de lubrifi-cante
Filtro do ar					R**			5.8	
Alternador							I		
Bateria			I				C	5.10	
Correias	I-A*			I-A			I-A	4., 4.2	
Fluido dos travões				I-A				5.21	VI
Linhas do travão		I-A*		I-A			I-A		
Embraiagem				I-A					
Sistema de arrefecimento	I-C-A				I	R		5.7	IV
Fluido do diferencial				I-R*			R	5.22	III
Sistema eléctrico		I*		I				5.26	
Velas de incandescência							I		
Ponto morto do motor		I*					I		
Ruídos/vibração no motor	I								
Óleo de motor (Suzuki)	I	R*****		R**				5.3	
Óleo de motor (Kubota)	I	R*	R**					5.3	II
Filtro de óleo de motor	I	R*****		R**				5.3	
Filtro de óleo de motor	I	R*	R**					5.3	
Folga das válvulas do motor		I****			I****				
Fugas de fluido	I-R								
Sistema de combustível		I*					I	5.15	
Filtro de combustível				R				5.15	
Separador de água e combustível (apenas Diesel)	I-C								
Fluido do controlador				I-A					
Filtro hidráulico							R		
Fluido hidráulico				I-A					
Bomba / Temporizador da injecção.							I		
Lubrifique o chassis				L			L	7.2	I
Tubo e panela de escape	I			I				5.5	
Filtros do radiador	I-C/AR							5.7	
Fluido direcção assistida		I*		I				5.4	V
Velas de incandescência (apenas motor a gasolina)							C-A-R		
Escovas motor de arranque							I		
Pneus	I	I-A						5.16	
Fluido da transmissão (Transmissão manual)				I			R	5.23 5.24	III
Fluido da transmissão (Transmissão automática)				I			R	5.25	VII
Rolamentos das rodas							Reembalar		

A - Adicione ou afine C - Limpe I - Inspeccione L- Lubrifique R - Substitua AR - Conforme necessário

7 TABELAS DE MANUTENÇÃO E LUBRIFICAÇÃO

Notas:

* Indica o serviço inicial para máquinas novas.

** Dependendo das condições de funcionamento, o óleo de motor, o filtro do óleo e o filtro do ar poderão precisar de substituições mais frequentes.

*** Inspeccione se os tubos e mangueiras visíveis têm fugas ou marcas de óleo.

****Deverá ser efectuado num Revendedor Autorizado

***** Mude o óleo do motor e o filtro nos motores Suzuki após as primeiras 50 horas.

Lubrificantes

I Pistola lubrificante manual com NLGI Grau 2 (Classe de serviço LB).

II Óleo de motor - Consultar secção 5.3

III SAE EP 80-90 Gear Lube

IV Capacidade: 2,8 l mistura de 50/50 de água com glycol-etileno

V Fluido GM para Direcção Assistida

VI Fluido dos travões DOT 3

VII Fluido Mercon/Dextron II para transmissão Automática

VIII Fluido Hidráulico GreensCare 68
5003102 tambor 220 l GreensCare 68
5003103 cubo 20 l GreensCare 68

IX Óleo SAE 20W

7.4 PEÇAS DE SUBSTITUIÇÃO FREQUENTE

Peça	Descrição
5000919	Elemento do filtro do ar de gasóleo
840352	Elemento do Filtro do ar de gasolina
4113986	Filtro do óleo do motor a gasóleo
2701809	Filtro do óleo do motor a gasolina
4183591	Filtro de gasóleo
2701898	Filtro de gasolina
4175560	Correia do alternador do motor a gasóleo

Peça	Descrição
4117092	Correia da bomba hidráulica do motor a gasóleo
4139265	Correia da direcção assistida – alternador do motor a gasolina
4139351	Correia da bomba hidráulica do motor a gasolina
4119606	Vela de Ignição NGK 3932 (DCPR7E)
2701832	Vela de Ignição Denso XU22EPR-U

7.5 PEÇAS PARA ASSISTÊNCIA DE MOTORES DIESEL KUBOTA

As seguintes peças comuns do motor só são indicadas a título de referência. Consulte o Manual de Peças do Motor para uma lista completa de peças.

Peça	Descrição
2811021	Solenóide do combustível
5000894	Bomba de injecção
5000901	Tubo de injecção nº 1
5000902	Tubo de injecção nº 2
5000903	Tubo de injecção nº 3
4183586	Injector de combustível
5001265	Tubo de retorno de combustível
4177227	Vela de incandescência
556412	Termóstato
4134370	Junta do termóstato
4165525	Bomba de água
557867	Junta da bomba de água
4177260	Bujão de dreno do tabuleiro do óleo

Peça	Descrição
2500811	Junta do bujão de dreno do tabuleiro do óleo
4113986	Filtro do óleo
4145944	Tampa de enchimento do óleo
2809955	Vedante da tampa de enchimento do óleo
2500856	Junta da tampa das válvulas
557888	Motor de arranque
4183623	Alternador

9 CATÁLOGO DE PEÇAS

9.1 COMO USAR O CATÁLOGO DE PEÇAS

Abreviaturas

N/S - Não fornecido separadamente, apenas pode ser obtido encomendando o componente principal ou kit.

AR -Quantidade variável ou medida é necessária para obter o ajuste correcto.

Símbolos tais como ●, próximos do número do elemento, indicam que existe uma nota que contém informação adicional importante na encomenda de uma peça.

Artigos indicados

Os elementos declarados indicam as peças componentes que estão incluídas como parte de um conjunto ou outro componente. Estas peças podem ser encomendadas separadamente ou como parte do componente principal

Item	Nº da peça	Qt.	Descrição	Números de série/Notas
● 1	123456	1	Suporte, Válvula	*Indica uma peça*
2	789012	1	Elevação, Válvula	*Inclui Items 2 e 3*
3	345678	1	• Comando	*Peça que requer assistência incluída no Item 2*
4	N/S	1	• Conjunto de vedante	*Peça que não requer assistência incluída no Item 2*
5	901234	1	Parafuso, 1/4-20 x 2” Cabeça sextavada	

9.2 PARA ENCOMENDAR PEÇAS

1. Preencha seu nome e endereço **completos** no pedido.
2. Explique onde e como fazer a remessa.
3. Indique o número do produto, o nome e o número de série que se encontram gravados na chapa de características ou na chapa de série do seu produto.
4. Encomende a quantidade desejada da peça sobressalente, referindo o código da cor e a descrição da peça como se indica na lista de peças.
5. Envie ou leve o pedido até um revendedor autorizado Jacobsen.
6. Inspecione todos os itens da remessa ao recebê-los. Se houver alguma peça avariada ou ausente, encaminhe uma reclamação por escrito ao transportador antes de aceitálos.
7. Não devolva materiais sem uma carta de explicação, listando as peças que estão sendo devolvidas. As despesas de transporte devem ser pré-pagas.

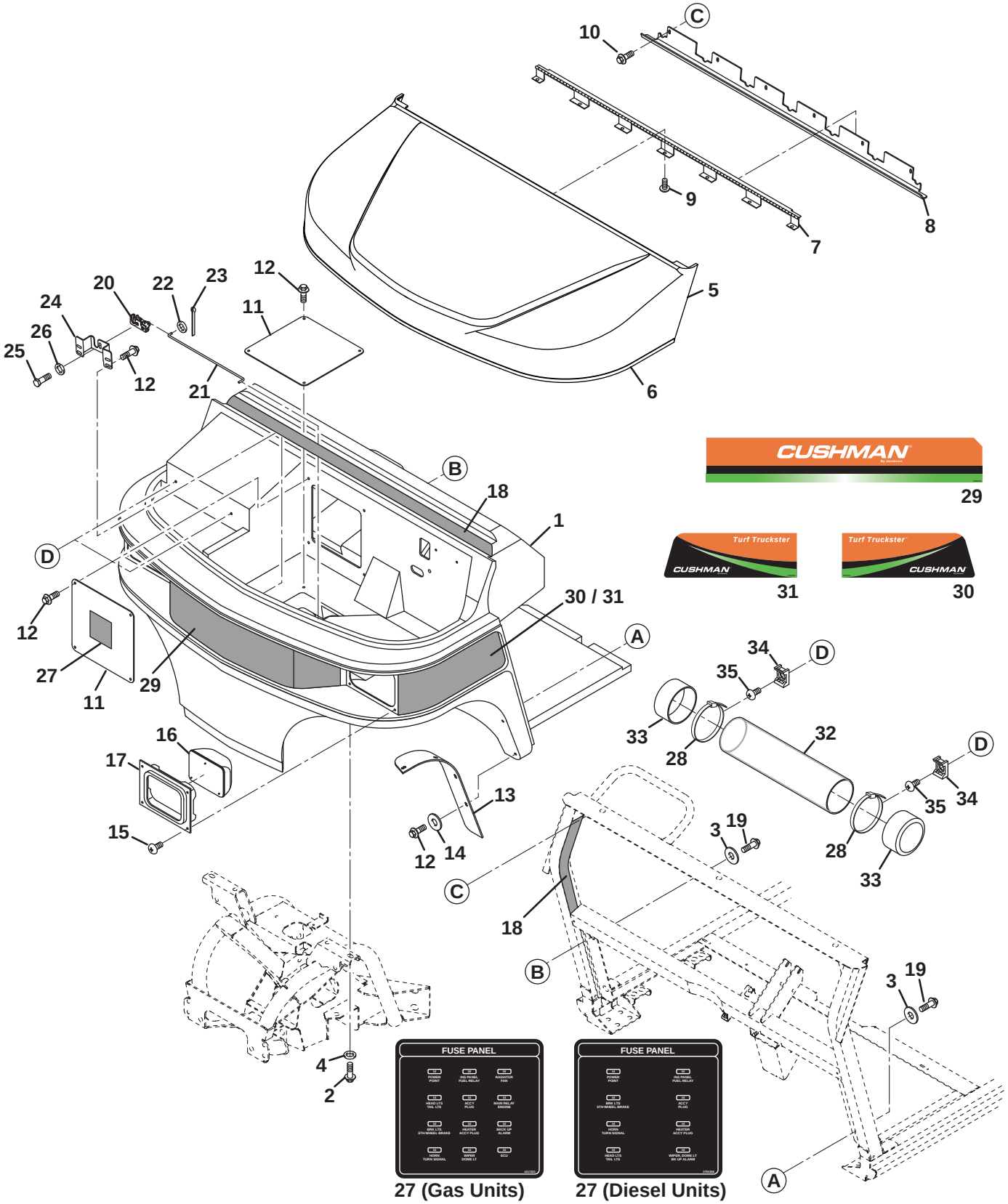
O uso de peças e acessórios que não sejam autorizadas da Jacobsen invalidará a garantia.

9.3 TABLE OF CONTENTS

1.1 ..... Front Body 42
2.1 ..... Engine Cover 44
3.1 ..... Four Post ROPS 46
4.1 ..... Upper ROPS 48
5.1 ..... Throttle Control 50
6.1 ..... Control Console 52
7.1 ..... Parking Brake and High-Low Speed Control.. 54
8.1 ..... Brake Pedal 56
9.1 ..... Clutch Pedal Linkage 58
10.1 ..... Manual Transmission Shifter Linkage 60
11.1 ..... Manual Transmission Shifter Linkage 62
12.1 ..... Automatic Transmission Shifter 64
13.1 ..... Automatic Transmission Oil Cooler 65
14.1 ..... Frame Attachments 66
15.1 ..... Frame, Lower ROPS and Platform 68
16.1 ..... Rear Axle 70
17.1 ..... Front Control Arms 72
18.1 ..... Steering Linkage 74
19.1 ..... Front Brakes 76
20.1 ..... Steering Column 78
21.1 ..... Diesel Radiator 80
22.1 ..... Gas Radiator 82
23.1 ..... Diesel Engine and Transmission Mounting ... 84
24.1 ..... Gas Engine and MT Mounting 86
25.1 ..... Gas Engine and AT Mounting 88
26.1 ..... Diesel Engine and Clutch 90
26.2 ..... Diesel Engine and Clutch 92
27.1 ..... Suzuki Gas Engine 94
28.1 ..... Diesel Engine Speed Control 96
29.1 ..... Diesel Engine Air Filter 98
30.1 ..... Diesel Engine Exhaust and Remote Oil Filter 100
31.1 ..... Gas Engine Governor Linkage 102
32.1 ..... Gas Engine Governor 104
33.1 ..... Gas Engine Air Filter 106
34.1 ..... Gas Engine Remote Oil Fill 108
35.1 ..... Gas Engine Exhaust 109
36.1 ..... Diesel Fuel System 110
37.1 ..... Gas Fuel System 112
38.1 ..... Gas Fuel System 114
39.1 ..... Hydraulic Tank and Filter 116
40.1 ..... Hydraulic Pump and Filter 118
41.1 ..... Lift Cylinder Circuit 120
42.1 ..... Diesel Electrical Components 122
43.1 ..... Gas Electrical Components 124
44.1 ..... Differential Assembly 126
45.1 ..... Differential Housing 128
46.1 ..... Axle Tubes and Shafts 130
47.1 ..... Front and Shifter Cover 132
48.1 ..... Input, Main and Jack Shafts 134
49.1 ..... Transmission Clutch Release-Shift Selector 136
50.1 ..... Transmission Case 138
51.1 ..... Input and Main Shaft 140
52.1 ..... Gear Shift Fork Linkage 142
53.1 ..... Mechanical PTO 144
54.1 ..... Diesel Engine Main Harness 146
55.1 ..... Diesel Engine and Fan Harness 148
56.1 ..... Gas Main Harness 152
56.1 ..... Gas Main Harness (Continued) 154
57.1 ..... Gas Engine Electrical Schematic 156
58.1 ..... Gas Engine Schematic 160
59.1 ..... Diesel Engine Electrical Schematic 162

1.1 Front Body

Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2700792	1	Front Clip	Includes decals 821071 & 840901
2	800930	2	Screw, M8-1.25 x 16 mm Hex Flange	
3	548159	4	Flat Washer, 5/16 x 1-1/4 in.	
4	450400	2	Washer, M8	
5	4206760	1	Hood, Orange	
6	4208620	1	• Weather Seal	
7	841477G01	1	Hinge, Hood	
8	841637	1	Angle, Front Clip Mounting	
9	450541	7	Screw, M6-1 x 16 mm Round Head	
10	452695	6	Screw, 1/4-20 x 5/8 in. Taptite	
11	841913	2	Plate, Access	
12	800934	20	Screw, M6-1 x 16 mm Hex Flange	
13	4139691	2	Fender, Flexible	
14	548175	8	Flat Washer, 1/4 x 1-1/4 in.	
15	800943	8	Screw, #10-14 Self Tapping	
16	837303	2	Headlight, Rectangular	
17	841428	2	Bezel, Headlight	
18	828382	AR	Seal, Foam	
19	452389	4	Screw, M8-1.25 x 25 mm Flange	
20	2702198	1	Latch, Hood	
21	841715	1	Rod, Hood Release	
22	303952	1	Flat Washer, #10	
23	306463	1	Cotter Pin, 1/16 x 1/2 in.	
24	841753	1	Bracket, Hood Latch	
25	306419	2	Screw, 1/4-20 x 1/2 in. Hex Head	
26	306488	2	Lockwasher, 1/4 in. Shakeproof	
27	2703158	1	Decal, Fuses	Diesel Engine
27	4117221	1	Decal, Fuses	Gas Engine
28	473142	2	Cable Tie, 15-1/2 in.	
29	4158740	1	Decal, Cushman	
30	4158741	1	Decal, Left Side Turf Truckster	
31	4158742	1	Decal, RIght Side Turf Truckster	
32	38541	1	Tube, Clear Document	
33	38061A	2	Cap, Vinyl	
34	840508	2	Mount, Cable Tie	
35	800344	2	Screw, #10 Type AB Self Tapping	

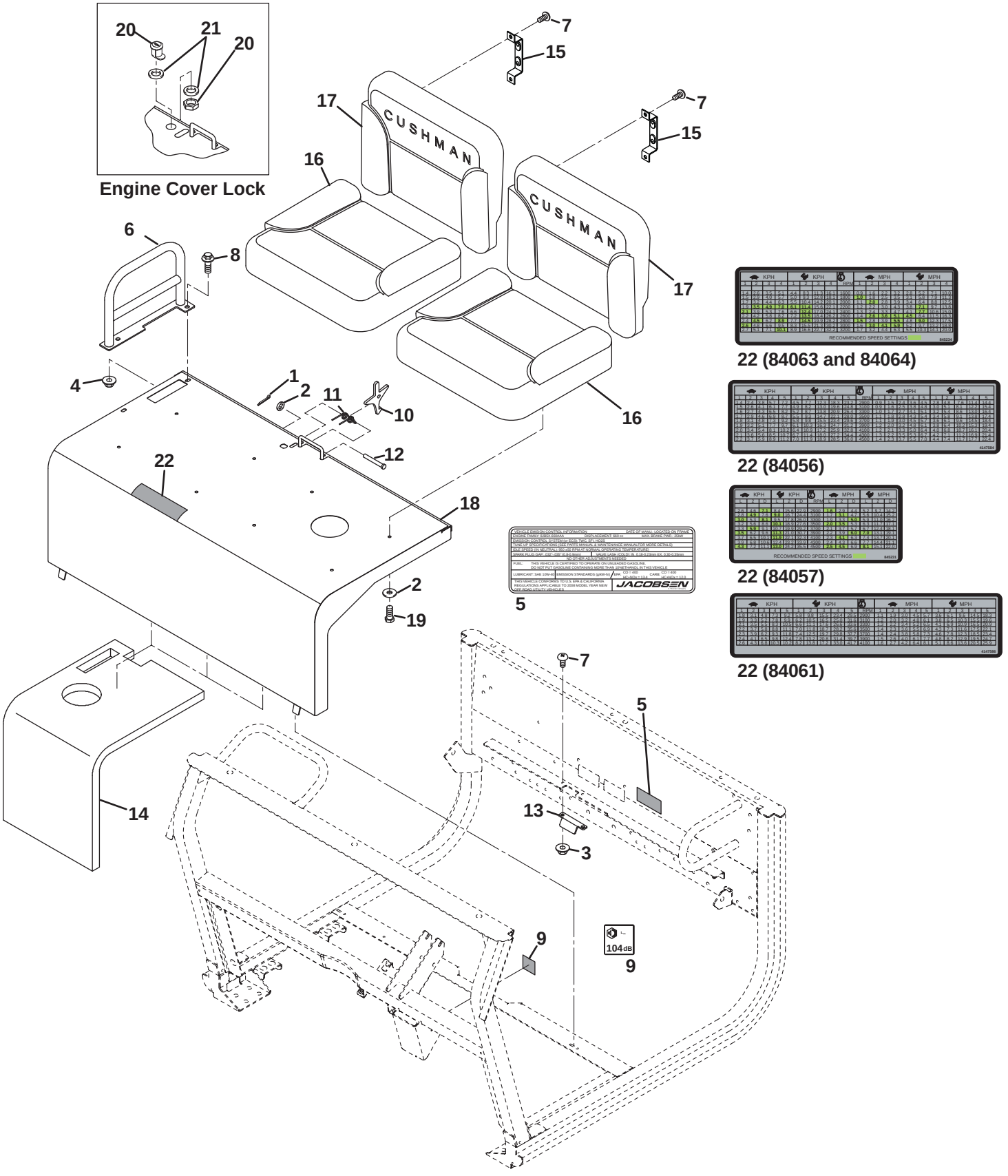
> Change from previous revision

2.1 Engine Cover

Serial No. All

Vehicles with Four Post ROPS

Engine Cover Lock



22 (84063 and 84064)

22 (84056)

22 (84057)

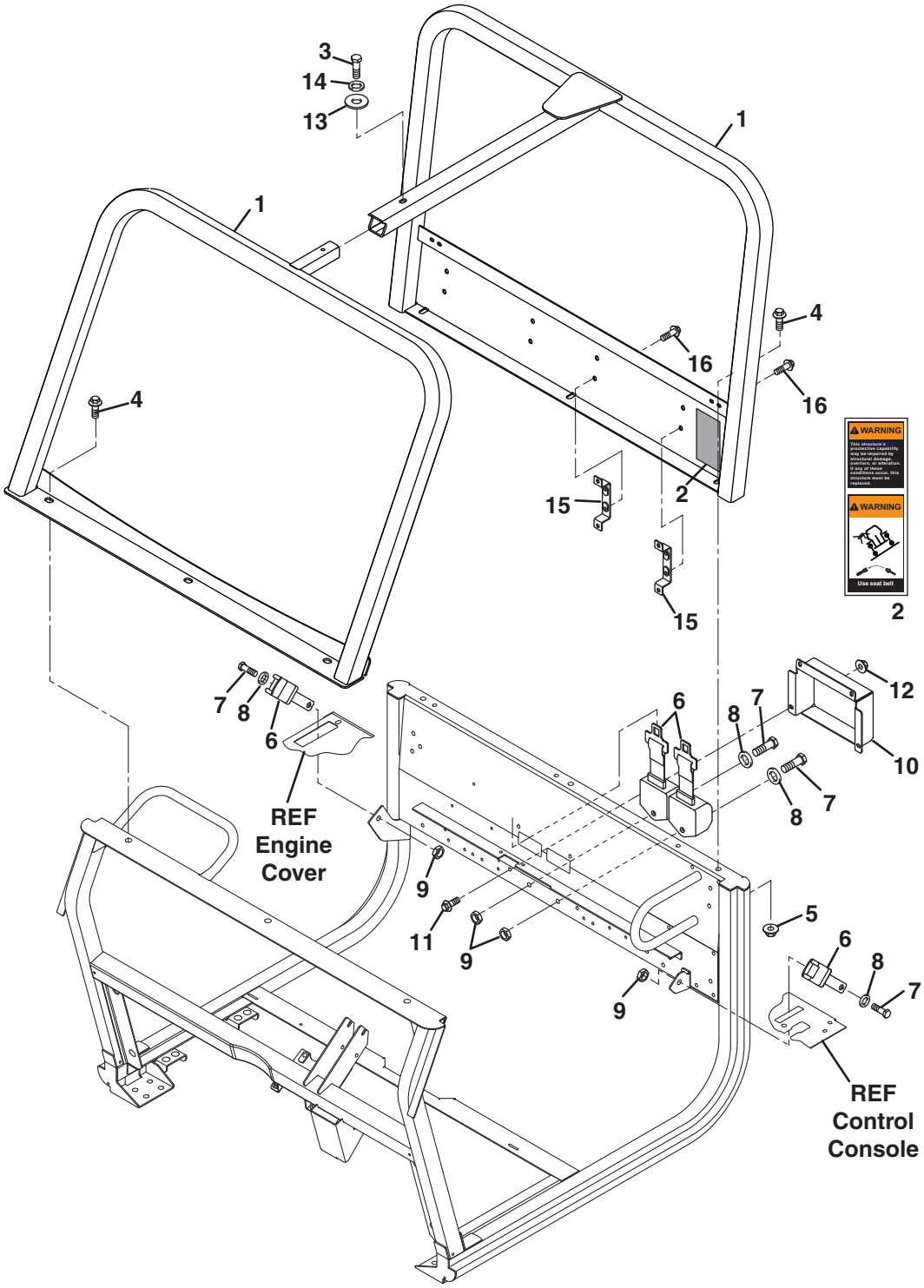
22 (84061)

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	306328	1	Cotter Pin, 3/32 x 3/4 in.	
2	308090	9	Washer, 1/4	
3	450452	2	Nut, M6-1 Hex Flange	
4	450453	2	Nut, M8-1.25 Hex Flange	
5	REF	1	Decal, Emission	Gas Units
6	893541	1	Handold, Right Side	
7	450541	10	Screw, M6-1 x 16 mm Hex Flange	
8	452388	2	Screw, M8-1.25 x 20 mm Hex Flange	
9	4139724	1	Decal, 104 dBa Noise	CE Diesel Units Only
10	523085	1	Latch, Engine Cover	
11	816401	1	Spring, Torsion	
12	830784	1	Clevis Pin, 1/4 x 1-7/8 in.	
13	2702199	1	Catch, Engine Latch	
14	4139939	1	Insulation, Engine Cover	
15	893632	4	Mount, Backrest	
16	601937	2	Seat Base	
17	893322	4	Backrest	See 3.1, or See 4.1
18	2701223	1	Cover, Engine	
19	302288	8	Screw, 1/4-20 x 1 in. Hex Head	
20	840436	1	Lock, Engine Cover	Optional, Required in Europe
21	309488	2	Washer	Optional, Required in Europe
22	845234	1	Decal, Ground Speed	Diesel Engines, 84063 and 84064
22	4147584	1	Decal, Ground Speed	Gas Engine, MT 84067
22	845231	1	Decal, Ground Speed	Gas Engine, AT84068
22	4147586	1	Decal,Ground Speed	Gas Engine, MT 84069

> Change from previous revision

3.1 Four Post ROPS

Serial No. All



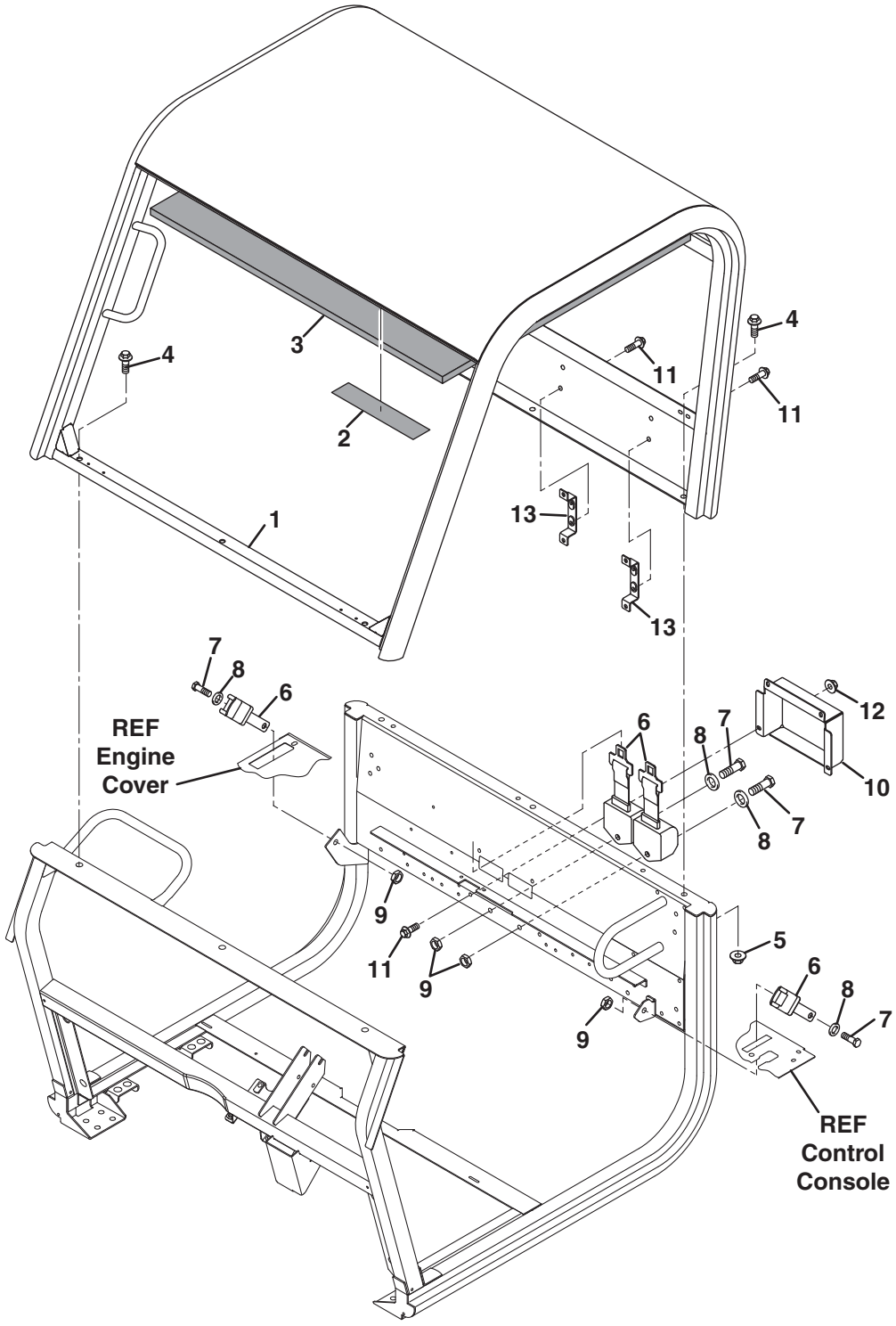
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4205580	1	Four Post ROPS	
2		1	• Decal, ROPS Warning	
3	800547	1	• Screw, M10-1.25 x 20 mm Hex Head	
4	452410	6	• Screw, M12-1.75 x 30 mm Flange	
5	450455	3	• Nut, M12-1.75 Hex Flange	
6	4140269	2	• Seat Belt Assembly	
7	N/S	2	• • Screw, 7/16-20 x 1 in. Hex Head	
8	N/S	2	• • Flat Washer, 7/16	
9	N/S	2	• • Nut, 7/16-20 Hex	
10	841799	1	• Guard, Seat Belt	
11	800930	4	• Screw, M8-1.25 x 16 mm Flange	
12	450453	4	• Nut, M8-1.25 Hex Flange	
13	450401	1	• Flat Washer, M10	
14	450412	1	• Lockwasher, M10	
15	893632	4	Support, Backrest	**See 2.1**
16	800930	8	Screw, M8-1.25 x 16 mm Flange	

> Change from previous revision

4.1 Upper ROPS

Serial No. All

Optional Kit

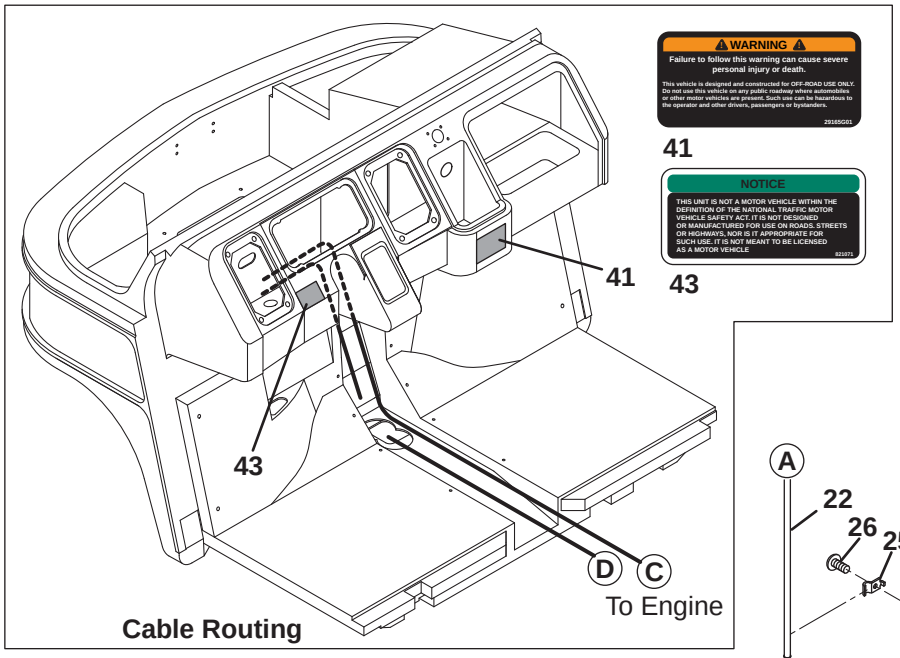


PART NUMBER: 893146 Meets SAE: J1040 MAY94
Only to be used on Cushman truck models with matching lower structure
Manufactured by JACOBSEN a Textron Company 11524 Wilmar Blvd. Charlotte NC 28273
WARNING
The protection offered by this ROPS will be impaired if it has been subjected to any modification or structural damage. This ROPS must be replaced after a rollover. Seat belts must be worn at all times.
4173340

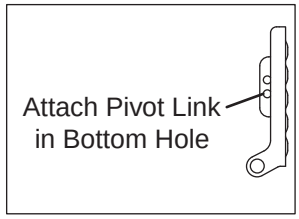
2

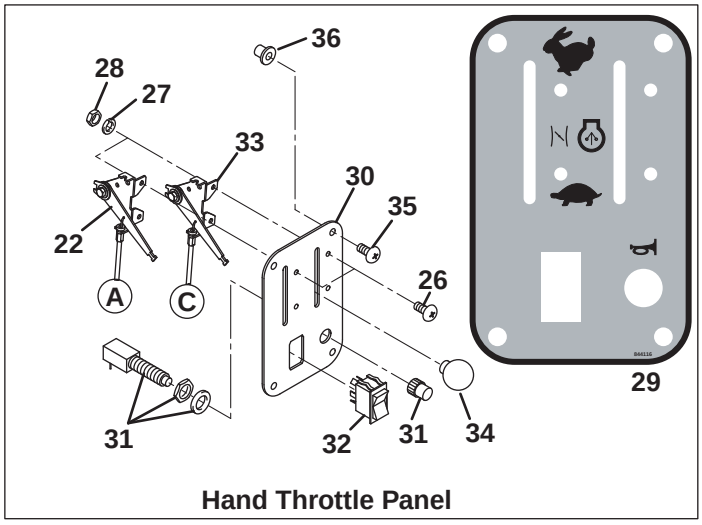
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4184320	1	Upper ROPS	
2	4175340	1	• Decal, Warning and ROPS Cert.	
3	844988	1	Foam, 1/2 in. Perforated ROPS	
4	452411	6	Screw, M12-1.75 x 40 mm Flange	
5	450455	3	Nut, M12-1.75 Hex Flange	
6	4140269	2	Seat Belt Assembly	
7	N/S	2	• Screw, 7/16-20 x 1 in. Hex Head	
8	N/S	2	• Flat Washer, 7/16	
9	N/S	2	• Nut, 7/16-20 Hex	
10	841799	1	Guard, Seat Belt	
11	800930	12	Screw, M8-1.25 x 16 mm Flange	
12	450453	4	Nut, M8-1.25 Hex Flange	
13	893632	4	Support, Backrest	**See 2.1**

> Change from previous revision

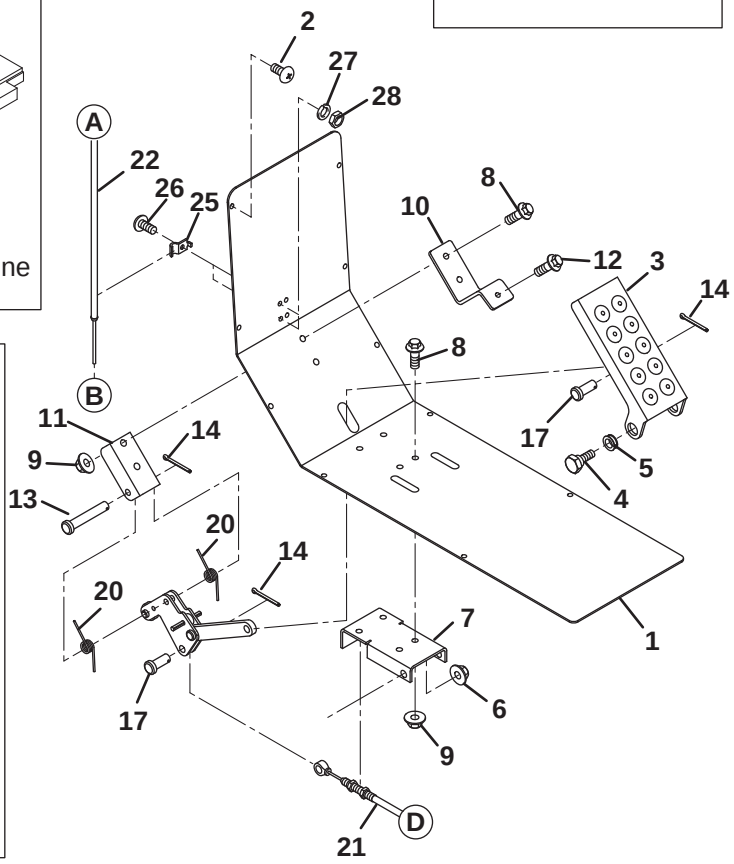

WARNING
Failure to follow this warning can cause severe personal injury or death.
This vehicle is designed and constructed for OFF-ROAD USE ONLY. Do not use this vehicle on any public roadway where automobiles or other motor vehicles are present. Such use can be hazardous to the operator and other drivers, passengers or bystanders.
41
NOTICE
THIS UNIT IS NOT A MOTOR VEHICLE WITHIN THE DEFINITION OF THE NATIONAL TRAFFIC MOTOR VEHICLE SAFETY ACT. IT IS NOT DESIGNED OR MANUFACTURED FOR USE ON ROADS, STREETS OR HIGHWAYS, NOR IS IT APPROPRIATE FOR SUCH USE. IT IS NOT MEANT TO BE LICENSED AS A MOTOR VEHICLE
43
41
43
D
C
To Engine

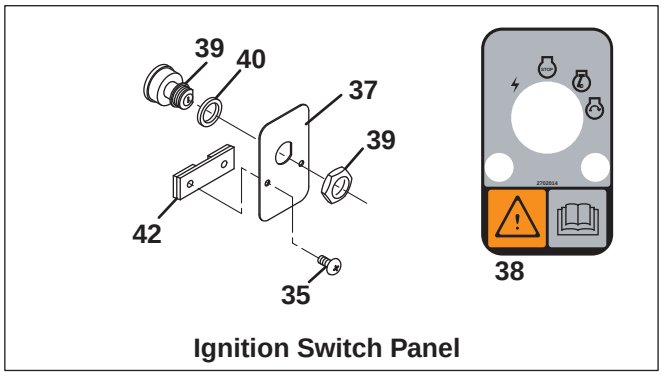
Cable Routing



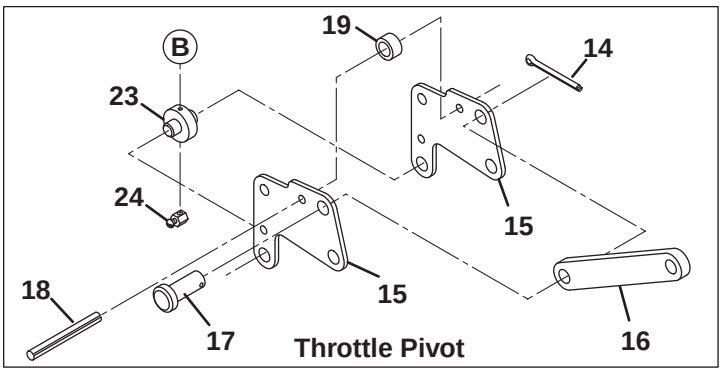


Hand Throttle Panel





Ignition Switch Panel



Throttle Pivot

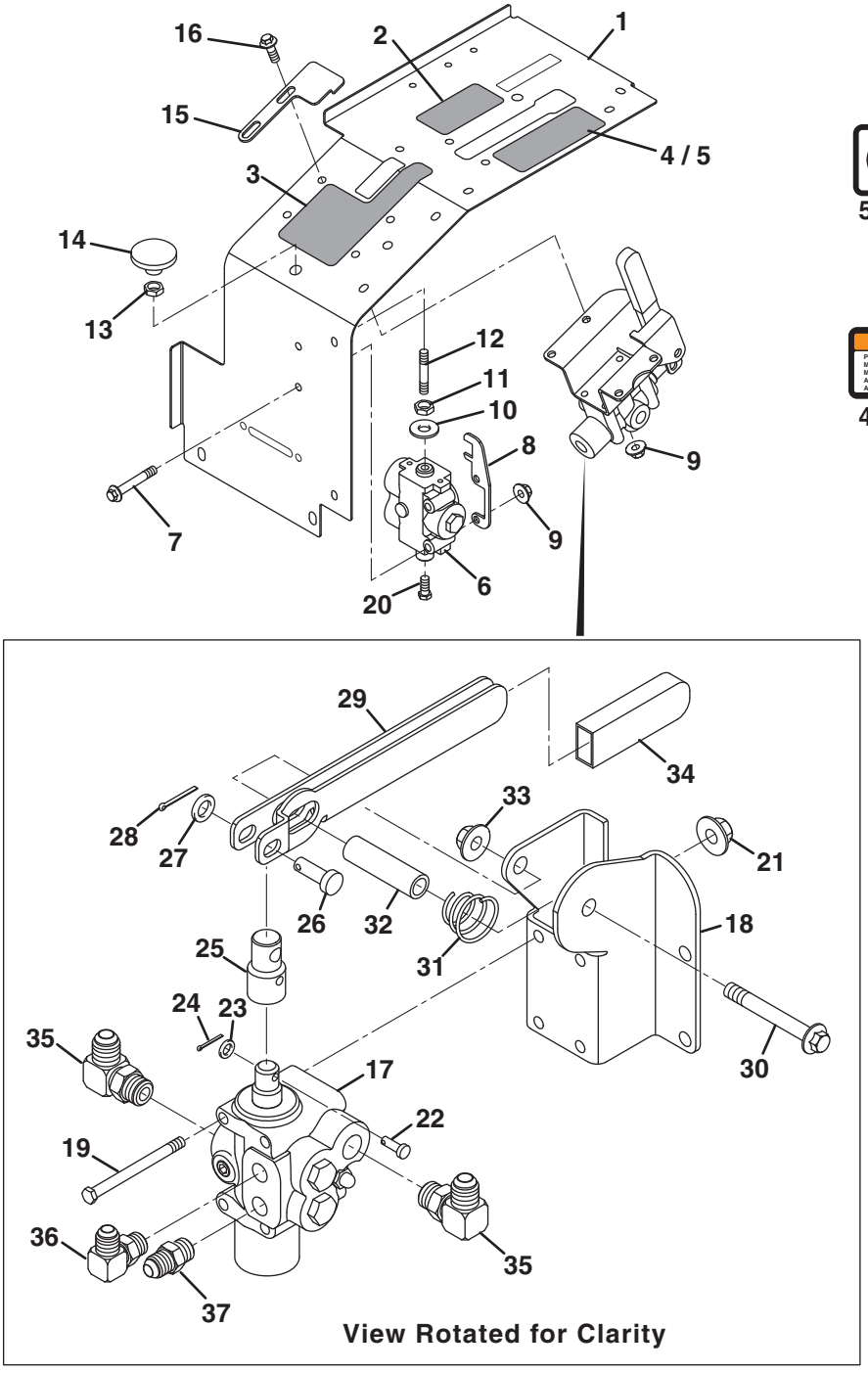
All Views Rotated 90° for Clarity

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	841663	1	Panel, Floor Access	
2	800943	10	Screw, #10-14 x 5/8 in. Self Tapping	
3	894159	1	Pedal, Throttle	
4	524633	2	Bolt, 5/16-18 x 1 in. Shoulder	
5	524643	2	Bearing, Split	
6	548911	2	Nut, 5/16-18 Flange	
7	2703257.7	1	Bracket, Foot Throttle	
8	452378	6	Screw, M6-1 x 20 mm Flange	
9	450452	6	Nut, M6-1 Flange	
10	843997	1	Bracket, Pedal Stop	
11	843562	1	Mount, Channel	
12	452695	1	Screw, M6-1 x 20 mm Self Tapping	
13	830784	1	Clevis Pin, 1/4 x 1-7/8 in.	
14	306328	4	Cotter Pin, 3/32 x 3/4 in.	
15	843563	2	Plate, Pivot	
16	843561	1	Link, Throttle Pivot	
17	806714	3	Clevis Pin, 5/16 x 3/4 in.	
18	844224	2	Roll Pin, 3/16 x 1-3/4 in.	
19	515268	2	Bushing	
20	844223	2	Spring, Torsion	
21	2703683	1	Throttle Cable	Diesel Vehicles, See 28.1
21	2703684	1	Throttle Cable	Gas Vehicles, See 31.1
22	828049	1	Throttle, Hand	
23	843607	1	Bushing, Throttle Cable	
24	817104	1	Stop, Wire	
25	111898	2	Clamp, Cable	
26	800271	6	Screw, #10-24 x 1/2 in. Pan Head	
27	120052	6	Lockwasher, #10	
28	306531	6	Nut, #10-24 Hex	
29	844116	1	Decal, Speed Control Panel	
30	841264	1	Panel, Speed Control	
31	830366	1	Switch, Horn	
32	843581	1	Switch, Light	
33	844130	1	Cable, Governor Control	See 28.1 or See 32.1
34	827821	2	Knob	
35	800582	6	Screw, 1/4-10 x 3/4 in. Truss Head	
36	2700496	4	Insert, 1/4-20 Threaded	
37	2701850.7	1	Panel, Ignition Switch	
38	2702014	1	Decal, Ignition Switch Panel	
39	837295	1	Ignition Switch	
40	837298	1	Spacer, 3/16 in.	
41	29165G01	1	Decal, Off Road Use	
42	2702012	1	Strap Nut, 1/4-20 x 2 in.	
43	821071	1	Decal, Not Motor Vehicle Notice	

> Change from previous revision

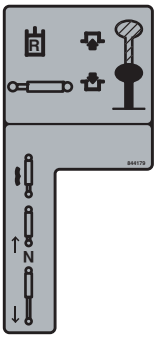
6.1 Control Console

Serial No. All

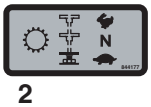


5

4



3



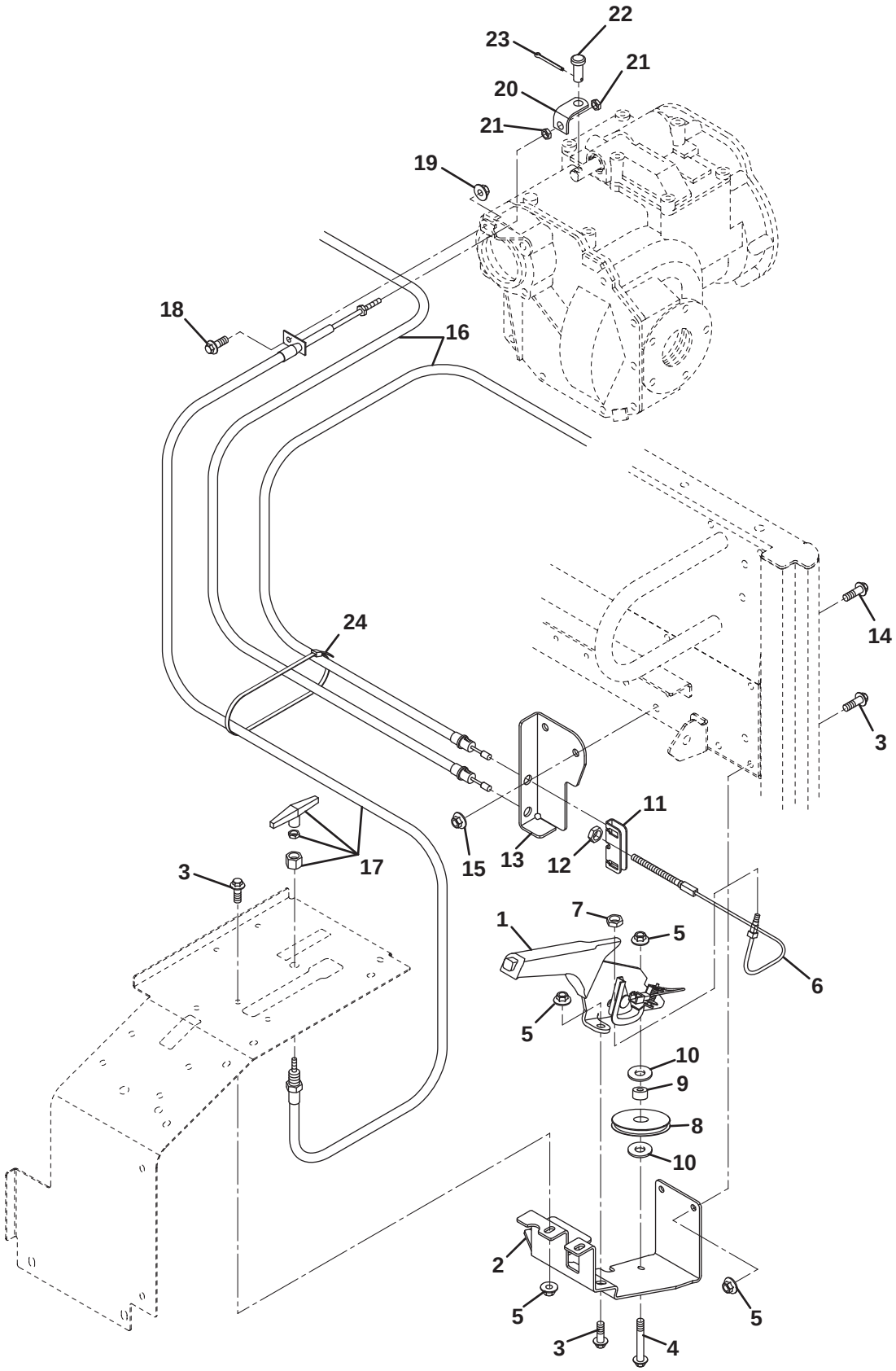
2

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2700796	1	Console	Used on all, except 84064
1	2700797	1	Console, EC	Used on 84064 Only
2	844177	1	• Decal, Aux. Transmission	
3	844179	1	• Decal, Hydraulic Controls	
4	822819	1	• Decal, Parking Brake	Used on all, except 84064
5	845185	1	• Decal, EC Parking Brake	Used on 84064 Only
6	894696	1	Valve, Hydraulic Selector	
7	452392	2	Screw, M8-1.25 x 50 mm Flange	
8	832798	1	Plate, Stop	
9	450453	6	Nut, M8-1.25 Hex Flange	
10	822419	1	Washer, 1-5/8 in. Diameter	
11	443810	1	Nut, 3/8-16 Hex Jam	
12	844582	1	Rod, Extension Handle	
13	306388	1	Nut, 3/8-24 Hex Jam	
14	548171	1	Knob	
15	844051	1	Plate, Float Latch	
16	800930	4	Screw, M8-1.25 x 16 mm Flange	
17	886270	1	Valve, Hydraulic Lift Control	Discard Decal included with Valve
18	843355	1	Mount, Lift Control Valve	
19	316907	4	Screw, 1/4-20 x 2-3/4 in. Hex Head	
20	306834	1	Screw, 3/8-16 x 3/4 in. Hex Head	
21	548910	4	Nut, 1/4-20 Hex Flange	
22	823225	1	Clevis Pin, 3/16 x 1 in.	
23	308089	1	Flat Washer, #10	
24	306463	1	Cotter Pin, 1/16 x 1/2 in.	
25	839213	1	Connector, Valve	
26	814079	1	Clevis Pin, 5/16 x 1-1/8 in.	
27	103867	1	Flat Washer, 5/16	
28	306328	1	Cotter Pin, 3/32 x 3/4 in.	
29	843758	1	Handle, Lift Control Valve	
30	452404	1	Screw, M10-1.5 x 70 mm Flange	
31	825538	1	Spring, Compression	
32	843759	1	Bushing, Lift Control Valve	
33	450454	1	Nut, M10-1.5 Hex Flange	
34	521144	1	Cover, Handle	
35	826558	2	Adapter, 90° Fitting	ORB to JIC 37° Flare
36	828057	1	Adapter, 90° Fitting	ORB to JIC 37° Flare
37	823118	1	Adapter, Straight Fitting	ORB to JIC 37° Flare

> Change from previous revision

7.1 Parking Brake and High-Low Speed Control

Serial No. All

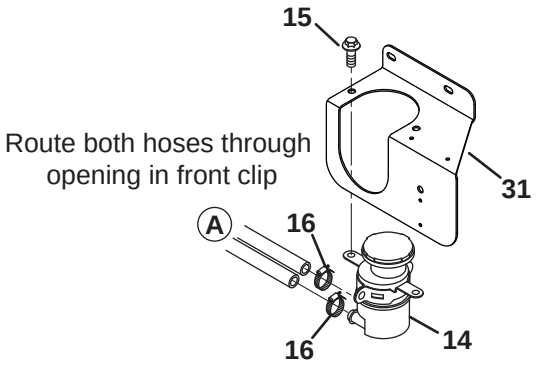


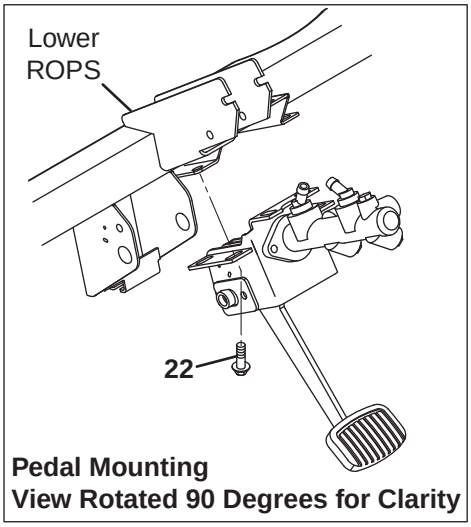
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4202860	1	Lever, Parking Brake	
2	845134	1	Bracket, Parking Brake Lever	
3	452388	5	Screw, M8-1.25 x 20 mm Flange	
4	452391	1	Screw, M8-1.25 x 40 mm Flange	
5	450453	6	Nut, M8-1.25 Flange	
6	845133	1	Cable, Parking Brake	
7	450377	1	Nut, M6-1 Staytite	
8	827182	1	Pulley, 3 in. Cable	
9	843359	1	Bushing, Pulley	
10	809152	2	Flat Washer, 5/16 x 1-3/16 in.	
11	843356	1	Equalizer, Parking Brake	
12	800446	1	Locknut, 5/16-24	
13	843158	1	Bracket, Parking Brake Cables	
14	452398	2	Screw, M10-1.5 x 20 mm Flange	
15	450454	2	Nut, M10-1.5 Flange	
16	REF	2	Parking Brake Cables	See 44.1
17	893067	1	Cable, High - Low Speed Control	
18	452378	1	Screw, M6-1 x 12 mm Flange	
19	450452	1	Nut, M6-1 Flange	
20	837043	1	Bracket, High - Low Cable	
21	2702244	2	Nut, #10-32 Hex	Apply Locktite® 242
22	806703	1	Clevis Pin, 5/16 x 31/32 in.	
23	306328	1	Cotter Pin, 9/32 x 3/4 in.	
24	320107	1	Cable Tie, 7-1/2 in.	

> Change from previous revision

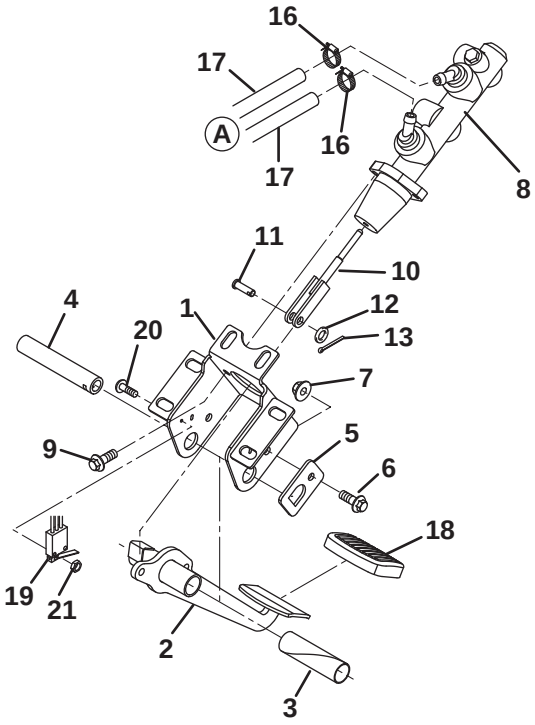
8.1 Brake Pedal

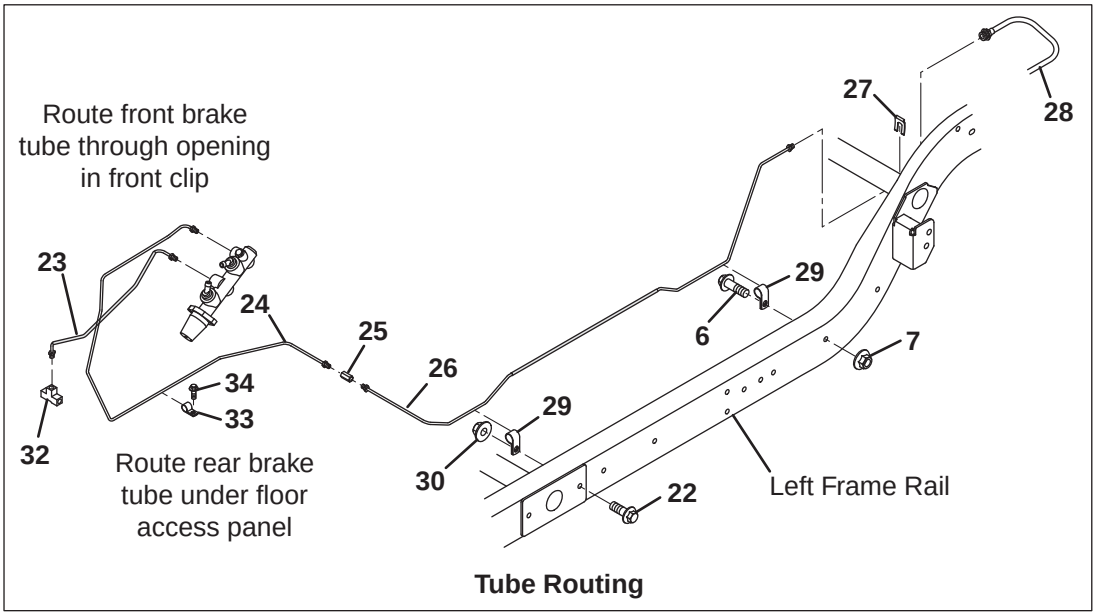
Serial No. All





Pedal Mounting
View Rotated 90 Degrees for Clarity





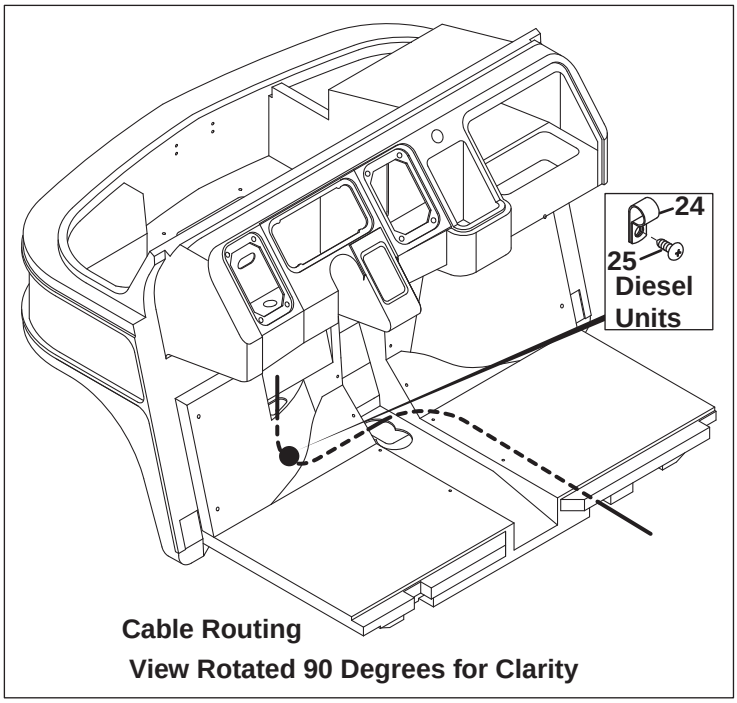
Tube Routing

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2701737.7	1	Bracket, Master Cylinder	
2	892921	1	Pedal, Brake	
3	840726	1	Bearing, Brake Pivot	
4	840725	1	Tube, Brake Pivot	
5	842935	1	Tab, Locking	
6	452388	2	Screw, M8-1.25 x 20 mm Flange	
7	450453	2	Nut, M8-1.25 Flange	
8	895113	1	Master Cylinder	
9	800930	2	Screw, M8-1.25 x 16 mm Flange	
10	894167	1	Rod, Brake	
11	806714	1	Clevis Pin, 5/16 x 15/16 in.	
12	103867	1	Flat Washer, 5/16	
13	306328	1	Cotter Pin, 3/32 x 3/4 in.	
14	894456	1	Reservoir, Brake Fluid	
	894456	1	• Reservior	
	826006	1	• Electrical Connector, 2 Wire	
	825886	2	• Terminal, 1/4 **L** Male	
15	800934	2	Screw, M6-1 x 16 mm Flange	
16	832033	4	Clamp, Hose	
17	4194500	2	Hose, 5/16 x 18 in. Brake	
18	810152	1	Pad, Pedal	
19	894308	1	Switch, Brake Micro	
20	450410	2	Screw, M3-0.5 x 20 mm Pan Head	
21	452424	2	Nut, M3-0.5 Hex	
22	452398	7	Screw, M10-1.5 x 20 mm Flange	
23	843021	1	Tube, Front Brake	
24	4194421	1	Tube, Rear Brake	
25	842103	1	Union, M10-1	
26	4194420	1	Tube, Rear Brake Line	
27	809137	1	Clip, Brake Line	
28	REF	1	Rear Brake Hose	See 44.1
29	810435	2	Clamp, Brake Tube	
30	450454	1	Nut, M10-1.5 Flange	
31	REF	1	Bracket, Reservoir / Horn	See 42.1 and 43.1
32	REF	1	Tee, M10-1.0 Flare Union	See 19.1
33	812445	1	Clamp, Tube	
34	800943	1	Screw, #10-14 x 5/8 in. Self Tapping	

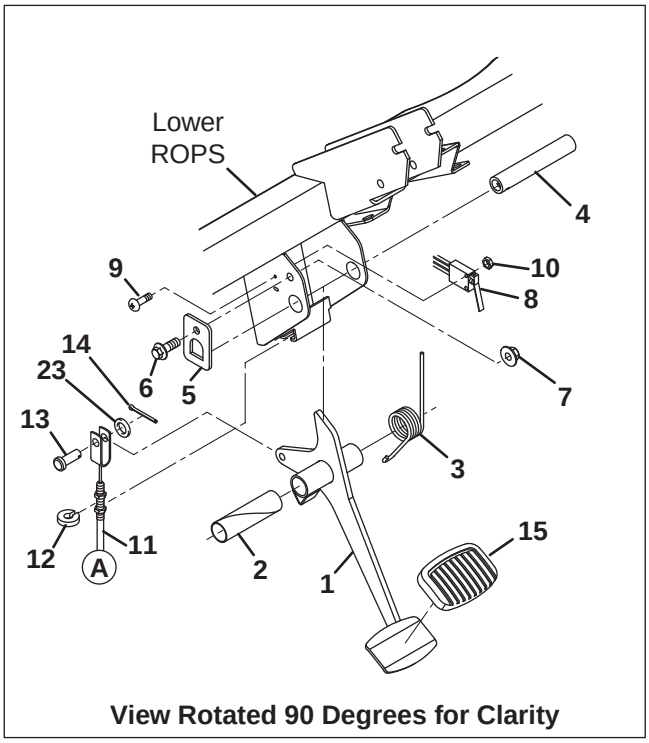
> Change from previous revision

9.1 Clutch Pedal Linkage

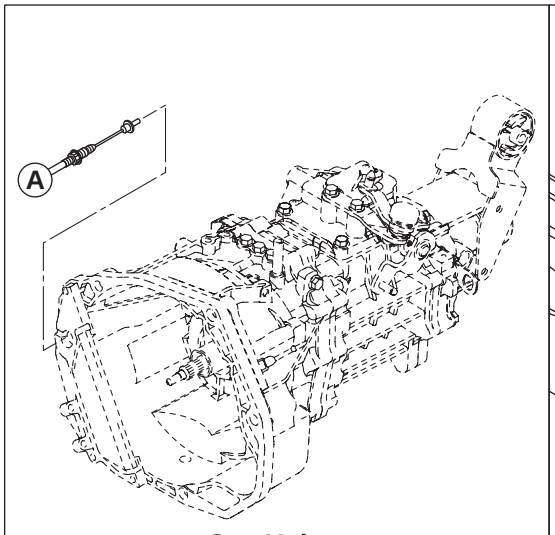
Serial No. 84063 All
Serial No. 84064 All
Serial No. 84067 All
Serial No. 84069 All



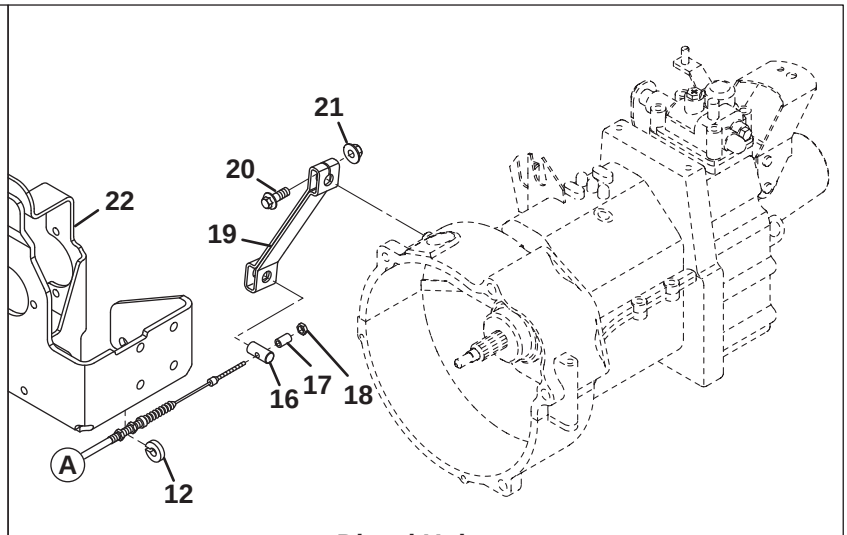
Cable Routing
View Rotated 90 Degrees for Clarity



View Rotated 90 Degrees for Clarity



Gas Units



Diesel Units

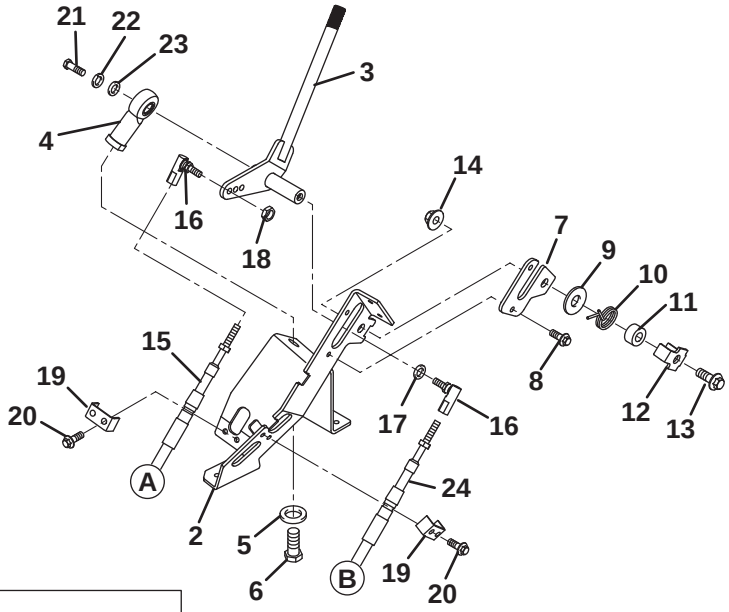
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	892933	1	Pedal, Clutch	
2	840726	1	Bearing, Brake Pivot	
3	844611	1	Spring, Torsion	
4	840725	1	Tube, Pedal Pivot	
5	842935	1	Tab, Locking	
6	452388	1	Screw, M8-1.25 x 20 mm Flange	
7	450453	1	Nut, M8-1.25 Flange	
8	894308	1	Switch, Clutch Micro	
9	450510	2	Screw, M3-0.5 x 20 mm Pan Head	
10	452424	2	Nut, M3-0.5 Flange	
11	4192281	1	Cable, Clutch	Diesel Units
11	4154481	1	Cable, Clutch	Gas Units
12	844202	2	Washer, Slotted	
13	806703	1	Clevis Pin, 5/16 x 31/32 in.	
14	306328	1	Cotter Pin, 3/32 x 3/4 in.	
15	810152	1	Pad, Pedal	
16	842010	1	Bushing, Clutch Release Arm	Diesel Units Only
17	833273	1	Bushing	Diesel Units Only
18	450377	1	Nut, M6-1 Nylock	Diesel Units Only
19	23266-85002	1	Arm, Clutch Release	Diesel Units Only
20	01550-08353	1	Screw	Diesel Units Only
21	2703002	1	Nut	Diesel Units Only
22	REF	1	Rear Alternator Bracket	Diesel Units Only, See 26.1
23	103867	1	Flat Washer	
24	2700757	1	Clamp, 1-7/16 I.D.	Diesel Units Only
25	452695	1	Screw, M6-1 x 20 mm Taptite	Diesel Units Only

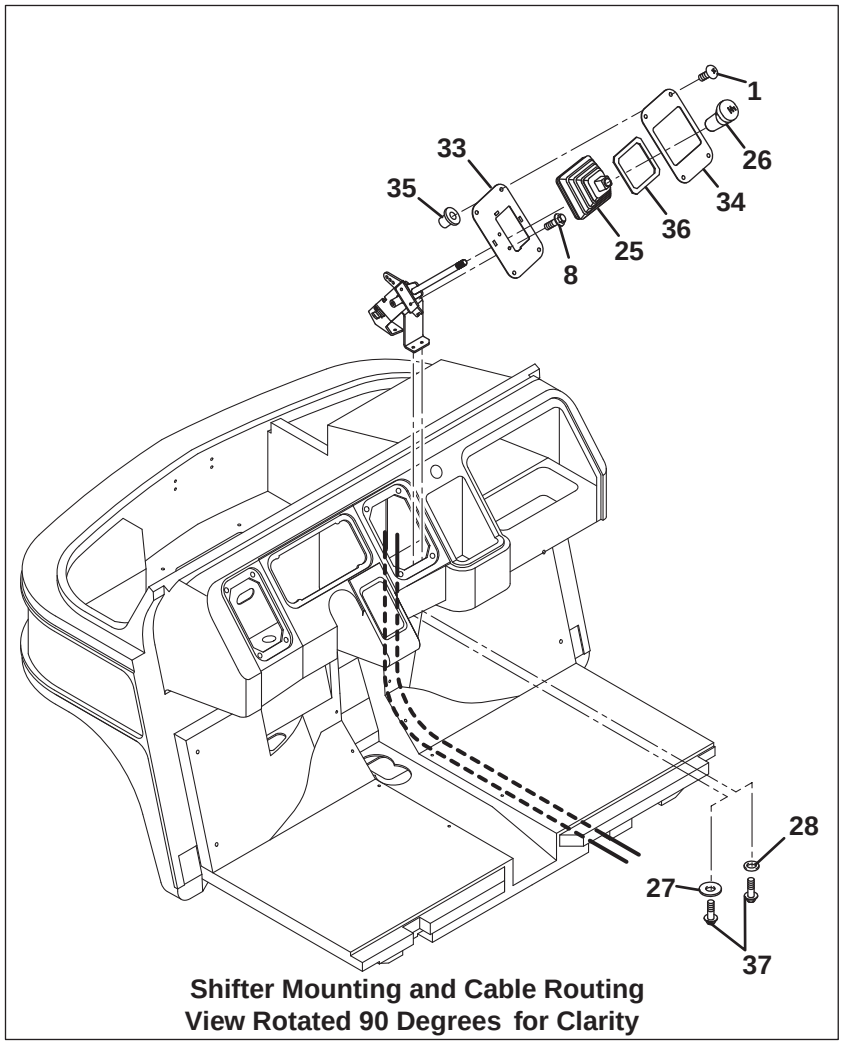
> Change from previous revision

10.1 Manual Transmission Shifter Linkage

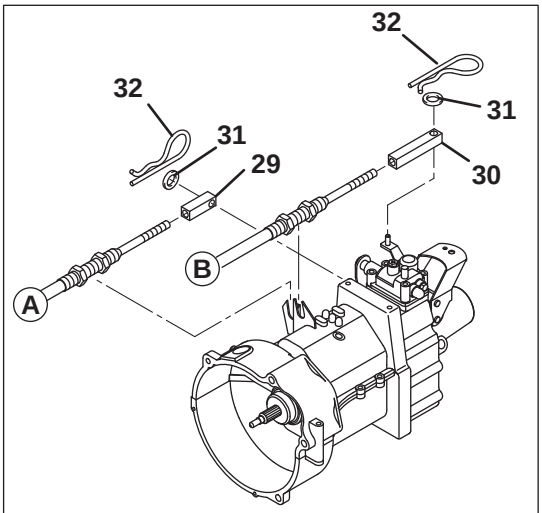
Diesel Units

Serial No. 84063 All
Serial No. 84064 All





Shifter Mounting and Cable Routing
View Rotated 90 Degrees for Clarity



Diesel Unit Cable Attachment

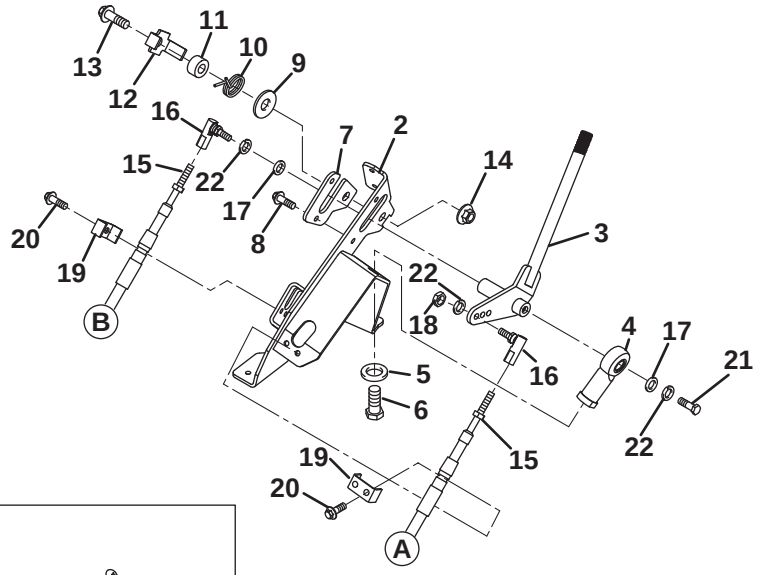
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	800582	4	Screw, 1/4-20 x 3/4 in. Truss Head	Diesel Units
2	2703956.7	1	Mount, Shifter	
3	2703953	1	Selector, Gear	
4	842773	1	Rod End, 1/2-20	
5	308091	1	Flat Washer, 1/2	
6	311763	1	Screw, 1/2-20 x 2-1/4 in. Hex Head	
7	843679	1	Plate, Wear	
8	452692	4	Screw, M6-1 x 12 mm Self Tap	
9	604174	1	Flat Washer, 3/8 in.	
10	843614	1	Spring, Torsion	
11	843685	1	Bushing, Spring	
12	2703951	1	Tab, Locating	
13	452401	1	Screw, M10-1.5 x 40 mm Flange	
14	450454	1	Nut, M10-1.5 Flange	
15	894179	1	Cable, Shifter	Diesel Units
16	842774	2	Ball Joint, 1/4-28	
17	816307	1	Flat Washer, 1/4	
18	306397	1	Nut, 1/4-28 Hex	
19	843724	2	Clamp, Cable	
20	452695	4	Screw, M6-1 x 20 mm Self Tap	
21	300977	1	Screw, 1/4-28 x 5/8 in. Hex Head	
22	306396	2	Lockwasher, 1/4	
23	308090	1	Flat Washer, 1/4	
24	894179	1	Cable, Shifter	
25	2702696	1	Boot, Control Lever	
26	2702695	1	Knob, Shifter	
27	548175	3	Flat Washer, 1/4 x 1-1/4 in.	
28	308090	1	Flat Washer, 1/4	
29	843778	1	Connector, Shift Cable	
30	2703707	1	Connector, Shift Cable	
31	103867	2	Flat Washer, 5/16	
32	821164	2	Hair Pin	
33	2703964.7	1	Panel, Right Side Dash	
34	843792	1	Plate, Shifter Boot	
35	2700496	4	Insert, 1/4-20 Threaded	
36	2703931.7	1	Ring, Boot Hold Down	
37	452695	4	Screw, M6-1 x 20 mm Self Tap	

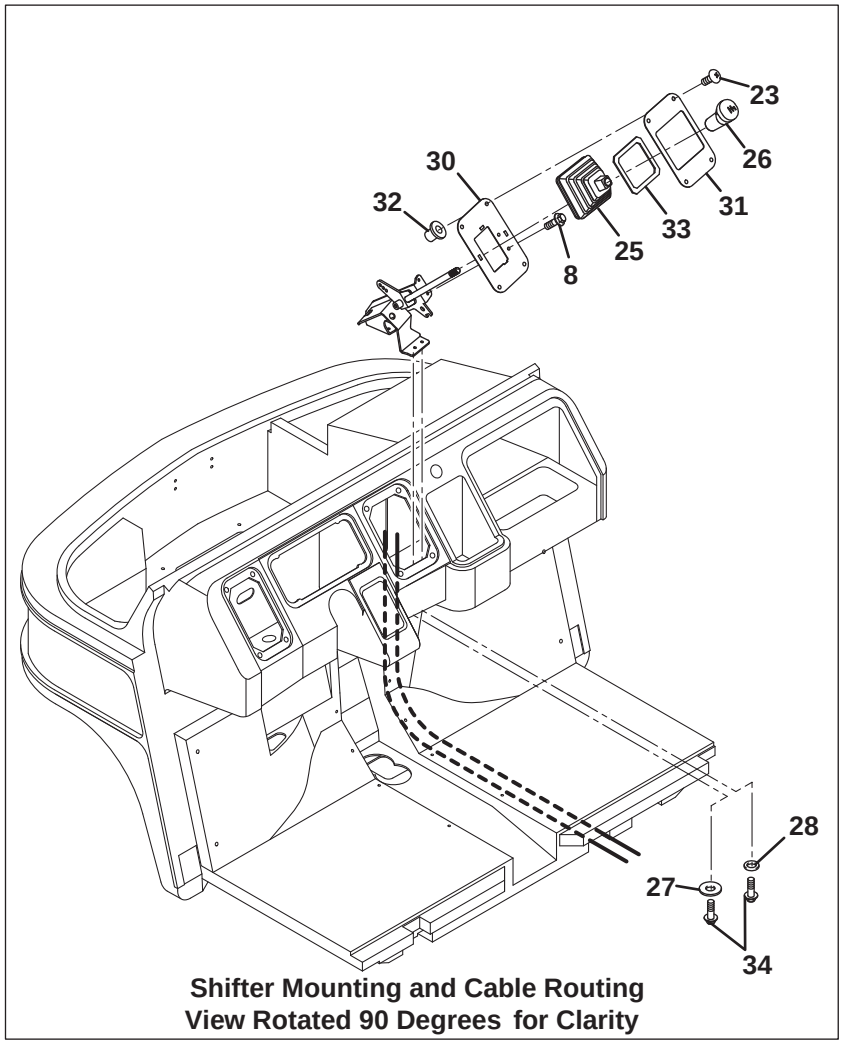
> Change from previous revision

11.1 Manual Transmission Shifter Linkage

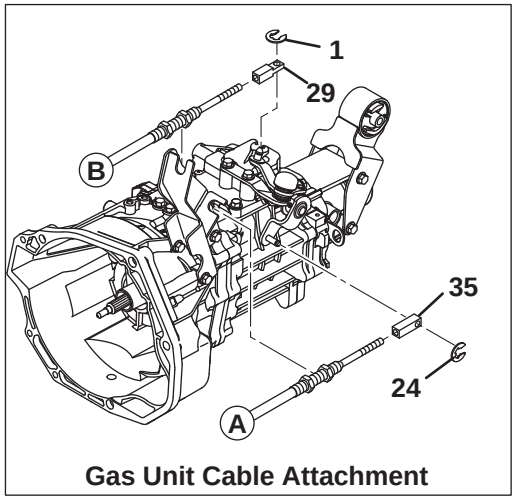
Gas Units

Serial No. 84067 All
Serial No. 84069 All





Shifter Mounting and Cable Routing
View Rotated 90 Degrees for Clarity



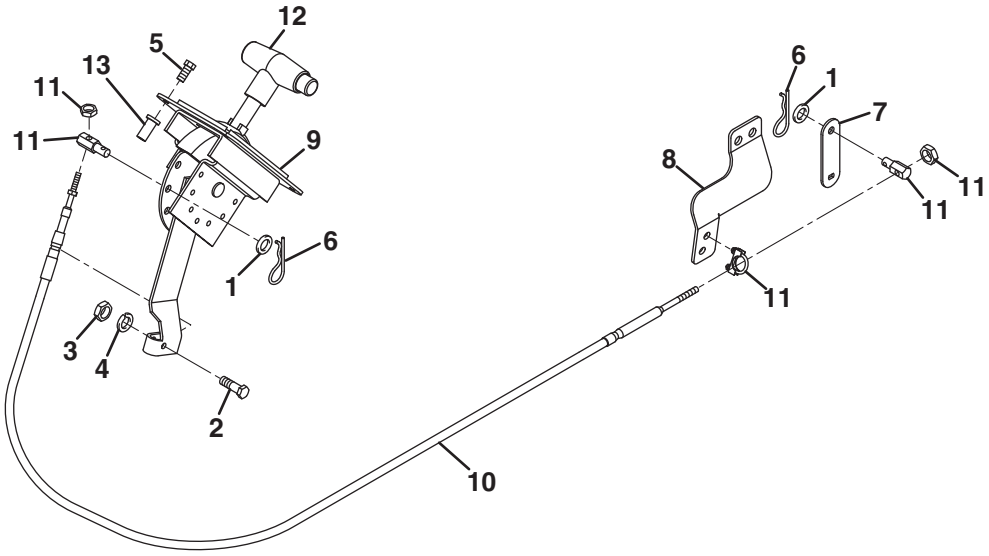
Gas Unit Cable Attachment

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4146819	1	Retaining Ring M6	
2	4142630	1	Mount, Shifter	
3	4142627	1	Selector, Gear	
4	842773	1	Rod End, 1/2-20	
5	308091	1	Flat Washer, 1/2	
6	311763	1	Screw, 1/2-20 x 2-1/4” Hex Head	
7	843679	1	Plate, Wear	
8	452692	4	Screw, M6-1 x 12 mm Self Tap	
9	604174	1	Flat Washer, 3/8”	
10	843614	1	Spring, Torsion	
11	843685	1	Bushing, Spring	
12	2703951	1	Tab, Locating	
13	452401	1	Screw, M10-1.5 x 40 mm Flange	
14	450454	1	Nut, M10-1.5 Flange	
15	2701273	2	Cable, Shifter	
16	842774	2	Ball Joint, 1/4-28	
17	816307	2	Flat Washer, 1/4	
18	306397	1	Nut, 1/4-28 Hex	
19	843724	2	Clamp, Cable	
20	452695	4	Screw, M6-1 x 20 mm Self Tap	
21	300977	1	Screw, 1/4-28 x 5/8” Hex Head	
22	306396	3	Lockwasher, 1/4	
23	800582	4	Screw, 1/4-20 x 3/4” Truss Head	
24	4146818	1	Retaining Ring M5	
25	2702696	1	Boot, Control Lever	
26	4140431	1	Knob, Shifter	
27	548175	3	Flat Washer, 1/4 x 1-1/4”	
28	308090	1	Flat Washer, 1/4	
29	4142796	1	Connector, Shift Cable	
30	2703964.7	1	Panel, Right Side Dash	
31	843792	1	Plate, Shifter Boot	
32	2700496	4	Insert, 1/4-20 Threaded	
33	2703931.7	1	Ring, Boot Hold Down	
34	452695	4	Screw, M6-1 x 20 mm Self Tap	
35	2701371	1	Connector, Shift Cable	

> Change from previous revision

12.1 Automatic Transmission Shifter

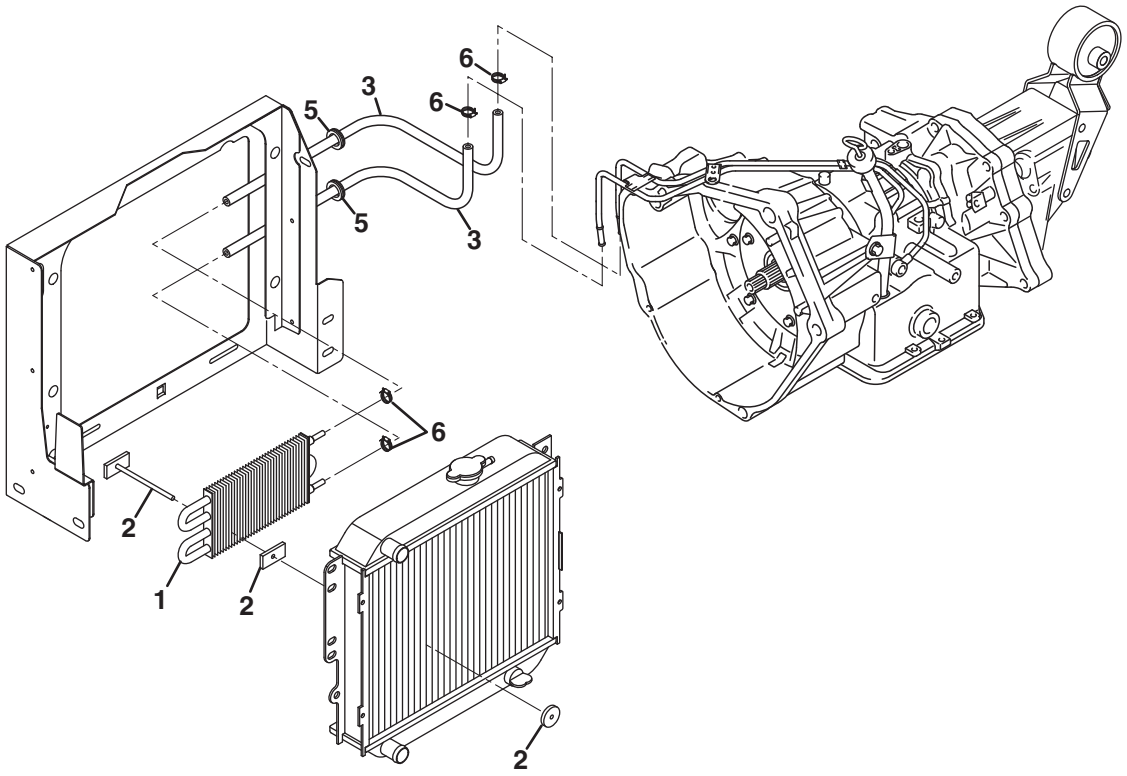
Serial No. 84068 All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	103867	2	Flat Washer, 5/16	
2	302030	1	Screw, 1/4-20 x 1-1/4 in.	
3	306375	1	Nut, 1/4-20 Hex	
4	306396	1	Lockwasher, 1/4	
5	800582	4	Screw, 1/4-20 x 3/4 in.	
6	821164	2	Hair Pin, 1/4 x 1-1/8 in.	
7	842740	1	Lever, Shifter	
8	845345.7	1	Bracket, Shifter Cable Mount	
9	894584	1	Shifter with Cable	
10	894508	1	• Cable, Shifter	
11	892164	1	• Kit, Cable Mounting Hardware	
12	869154	1	• Shifter Handle	
13	2700496	4	Insert, 1/4-20	

> Change from previous revision

13.1 Automatic Transmission Oil Cooler

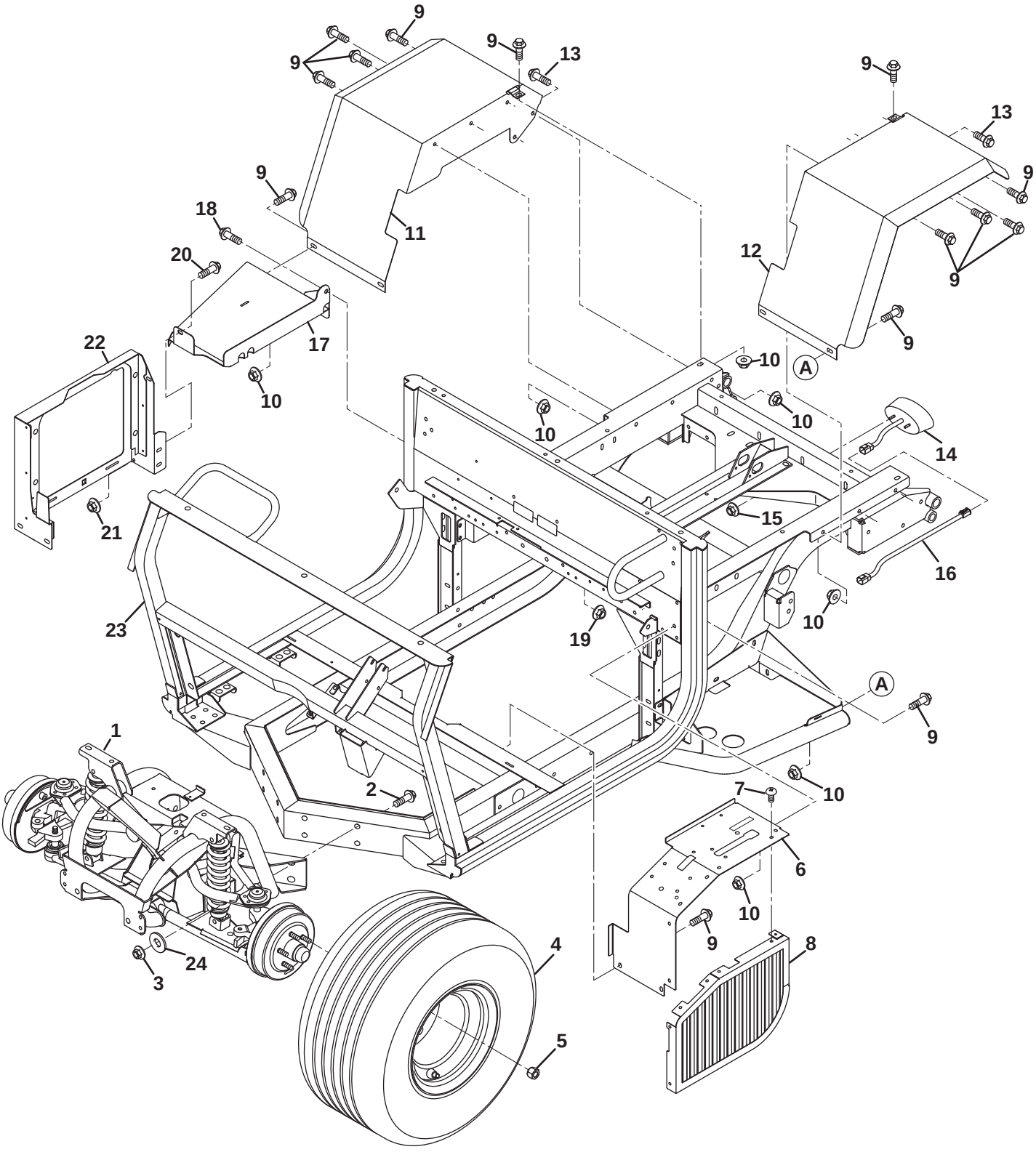


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	838340	1	Oil Cooler	
2	800789	1	Kit, Oil Cooler Mounting	
3	826590	AR	Hose, 5/16 I.D.	
4	821893	AR	Trim, Push On	Not Shown
5	809231	2	Grommet	
6	825624	4	Hose Clamp	

> Change from previous revision

14.1 Frame Attachments

Serial No. All

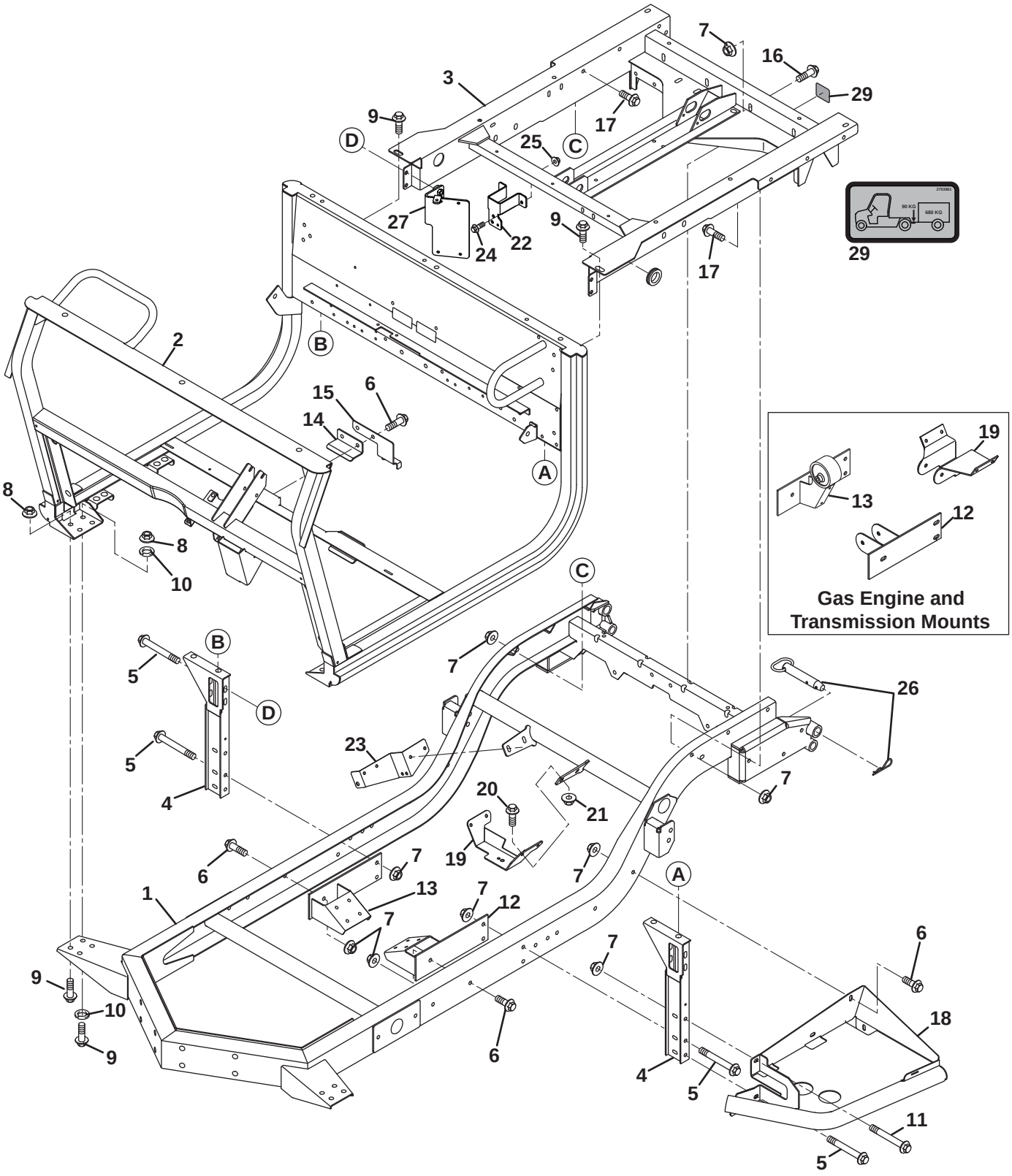


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Front Suspension	See 17.1, 18.1 and 19.1
2	452415	8	Screw, M12-1.75 x 80 mm Flange	
3	450455	8	Nut, M12-1.75 Hex Flange	
4	4243009	2	Wheel and Tire, Straight Rib	
	4243005	1	• Rim, 10.00 x 7 in. Five Bolt	3.94 in. Bolt Circle
	4243004	1	• Tire, 20 x 10.00 - 10 Straight Rib	
	360111	1	• Valve Stem	
5	800909	10	Nut, M12-1.5 Wheel Lug	
6	REF	1	Panel, Console	See 6.1
7	800026	7	Screw, 1/4-20 Truss Head	
8	4179842	1	Cover, Left Side Engine	
9	452398	18	Screw, M10-1.5 x 20 mm Flange	
10	450454	18	Nut, M10-1.5 Hex Flange	
11	893488	1	Fender, Right Side	
12	893487	1	Fender, Left Side	
13	452399	2	Screw, M10-1.5 x 25 mm Flange	
14	893602	1	Stop and Tail Light	
	822049	1	• Bulb, No. 1157	
	312288	2	• Lens, Screw	
	829099	1	• Lens and Gasket	Includes License Illuminator Lens
15	548910	2	Nut, 1/4-20 Serrated Flange	
16	894313	1	Harness, Taillight Wire	
17	4117153.7	1	Support, Fuel Tank	
18	800177	1	Screw, 5/16-18 x 3/4 in. Truss	
19	548911	1	Nut, 5/16-18 Hex Flange	
20	800930	1	Screw, M8-1.25 x 16 mm Flange	
21	450453	1	Nut, M8-1.25 Hex Flange	
22	REF	1	Radiator Support	
23	REF	1	Frame, Lower ROPS and Platform	See 15.1
24	809180	8	Washer, 1/2 x 1-1/8 in.	

> Change from previous revision

15.1 Frame, Lower ROPS and Platform

Serial No. All

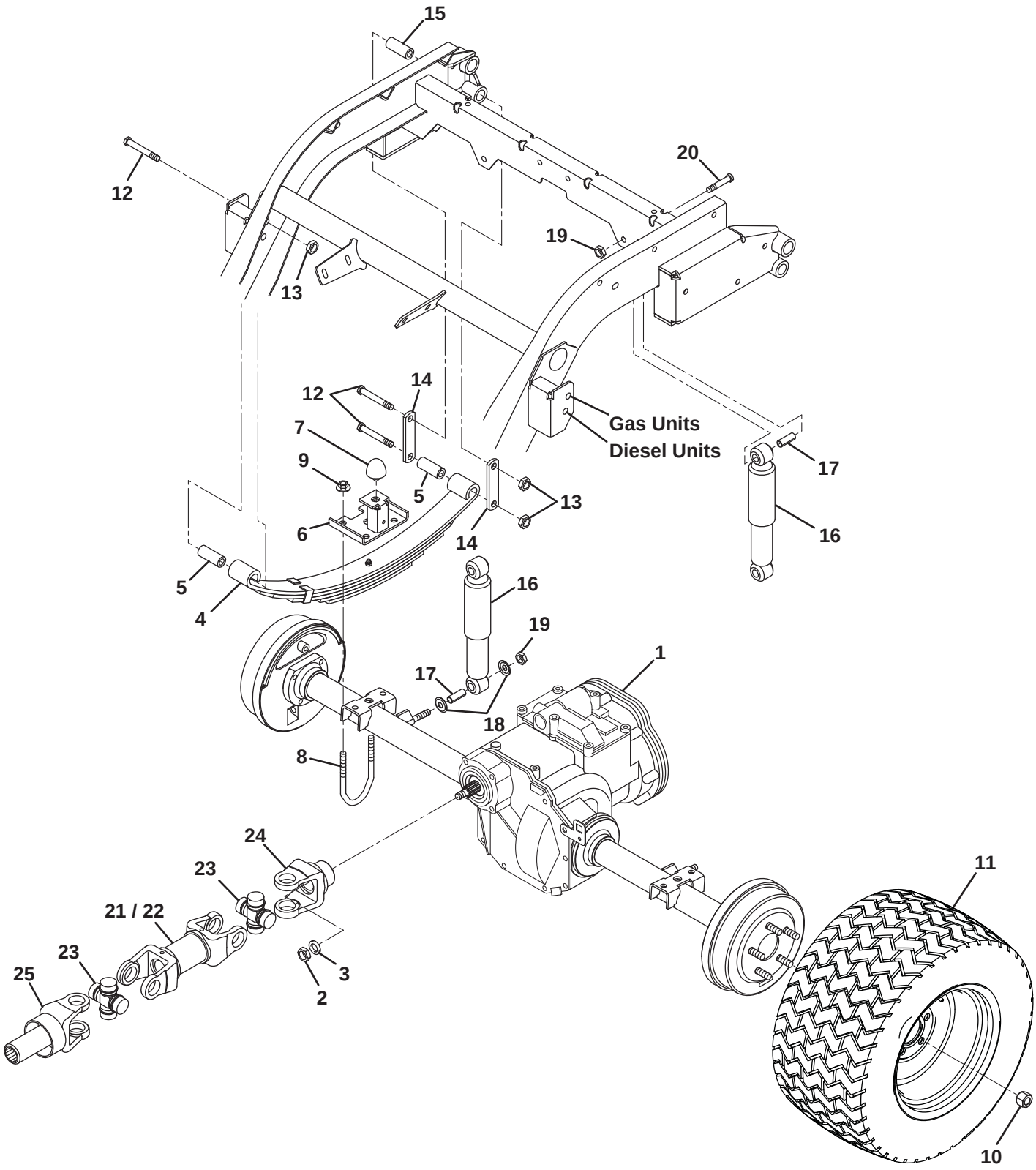


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	N/S	1	Frame, Main 4 Wheel	Standard Frame, Painted Black
1	N/S	1	Frame, Galvanized Main 4 Wheel	Optional Galvanized Frame
2	893145.7	1	ROPS, Lower	
3	893199.7	1	Platform, Truckster	Standard Platform, Painted Black
3	893199G02	1	Platform, Galvanized Truckster	Optional Galvanized Platform
4	893525G01	2	Support, Platform	
5	452406	6	Screw, M10-1.5 x 90 mm Flange	Grade 8.8
6	452398	5	Screw, M10-1.5 x 20 mm Flange	Grade 8.8
7	450454	20	Nut, M10-1.5 Hex Flange	
8	450455	8	Nut, M12-1.75 Hex Flange	
9	452410	12	Screw, M12-1.75 x 30 mm Flange	
10	309067	2	Lockwasher, 1/2 Shakeproof	
11	452405	3	Screw, M10-1.5 x 80 mm Flange	
12	894581	1	Mount, Left Side Diesel Engine	Diesel Units
12	894998.7	1	Mount, Left Side Gas Engine	Gas Units
13	894582	1	Mount, Right Side Diesel Engine	Diesel Units
13	2701697.7	1	Mount, Right Side Gas Engine	Gas Units
14	842870	1	Angle, Support	
15	844647G01	1	Angle, Hold Down	
16	452403	4	Screw, M10-1.5 x 60 mm Flange	
17	452402	6	Screw, M10-1.5 x 50 mm Flange	
18	2703294.7	1	Guard, Hydraulic Tank	
19	4174281	1	Transmission Mount	Diesel Units
19	4179803	1	Transmission Mount	Gas Units
20	452389	4	Screw, M8-1.25 x 25 mm Flange	
21	450453	4	Nut, M8-1.25 Flange	
22	4185540	1	Bracket, Fuel System	Diesel Units
23	2701693.7	1	Bracket, Fuel System	Gas Units
24	452378	2	Screw, M6-1 x 20 mm Hex Flange	
25	450452	2	Nut, M6-1 Hex Flange	
26	882971	2	Pin, Box Pivot	
27	4242482	1	Bracket, ECU Mounting	Gas Units Only
28	821893	4	INTRIM Push-On Black .2 ED	Not Shown
29	2703961	1	Decal, Hitch Capacity	
30	829997	1	Grommet	

> Change from previous revision

16.1 Rear Axle

Serial No. All

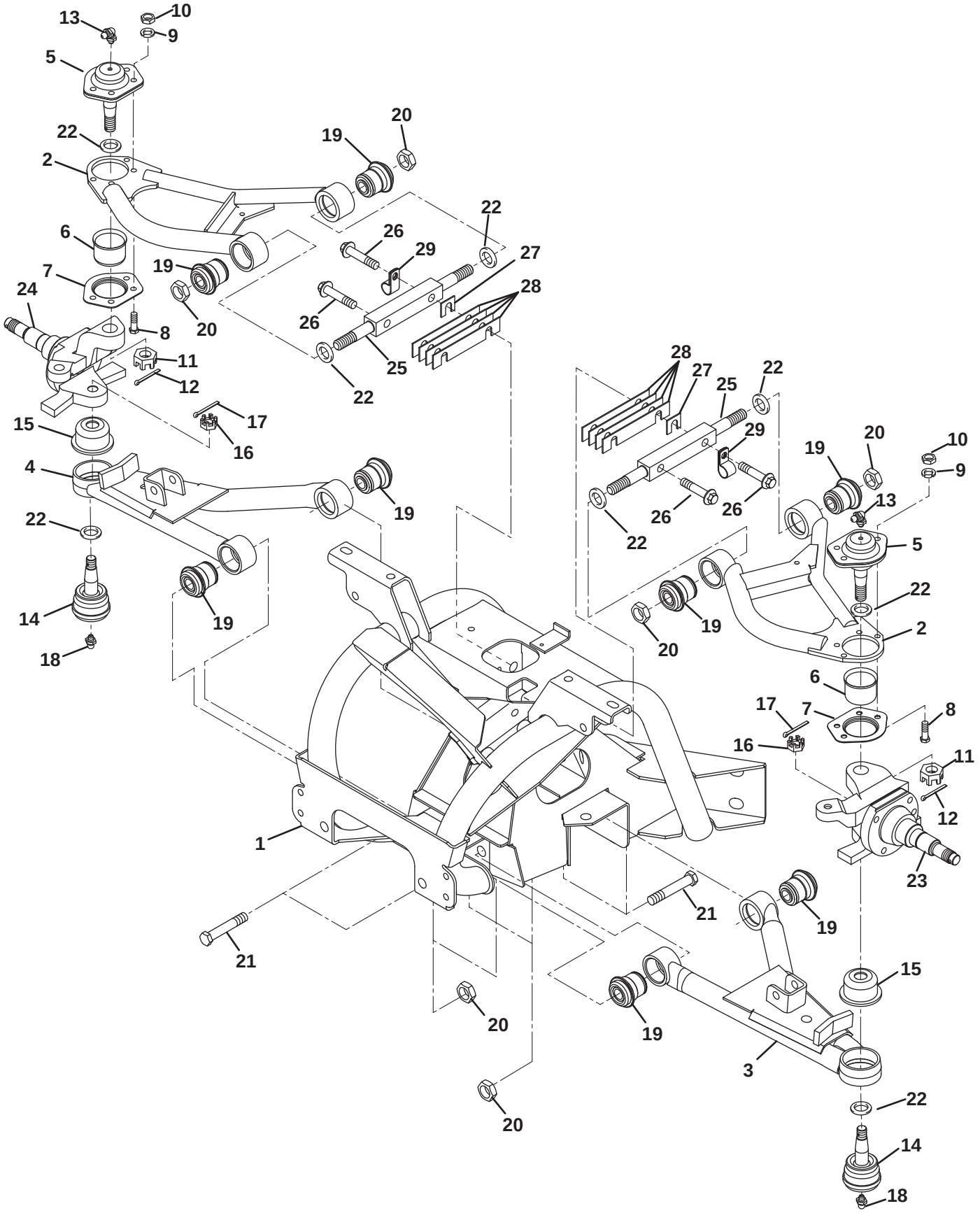


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	894825	1	11.16:1 Rear Differential Assembly	84063, 84064 and 84069, See 44.1
1	894826	1	14.21:1 Rear Differential Assembly	84067 and 84068, See 44.1
2	800198	1	Locknut, 1/2-20	
3	809180	1	Flat Washer, 1/2	
4	893862	2	Spring, Leaf	
5	843238	2	• Bushing, Nylatron	
6	893613	2	Upstop	
7	813850	2	Bumper, Travel Limiting	
8	887187	4	U-Bolt, 2 x 5-1/4 in.	
9	444730	8	Nut, 7/16-14	
10	800909	10	Nut, M12-1.5 Wheel Lug	
11	4243008	2	Wheel and Tire, Ultra Chevron	
	4243003	1	• Tire, 24 x 13-12 4 Ply	
	4243002	1	• Tire, 24 x 13-12 6 Ply	Optional Tire
	4243006	1	• Rim, 12 x 10.50	
	360111	1	• Stem, Valve	
12	311398	6	Screw, 1/2-13 x 3-1/2 in. Hex Head	
13	800602	6	Nut, 1/2-13 Nylon Insert	
14	843876	4	Shackle, Rear Spring	
15	843238	2	Bushing, Nylatron	
16	807332	2	Shock Absorber	
17	823621	4	Bushing	
18	825500	4	Washer, 7/16 Cupped	
19	800294	4	Locknut, 7/16-14 Center	
20	311396	2	Screw, 7/16-14 x 2-1/4 in. Hex Head	
21	4174288	1	Driveshaft, Complete	Diesel Engine
21	4144334	1	Driveshaft, Complete	Gas Engine, MT
21	4140071	1	Driveshaft, Complete	Gas Engine, AT
22	4174287	1	• Shaft, Drive	Diesel Engine
22	4144345	1	• Shaft, Drive	Gas Engine, MT
22	4140067	1	• Shaft, Drive	Gas Engine, AT
23	554663	2	• Cross and Bearing Kit	Includes Grease Fitting
24	4140069	1	• Yoke, Differential	
25	4140075	1	• Yoke, Transmission	Diesel Engine
25	4140072	1	• Yoke, Transmission	Gas Engine

> Change from previous revision

17.1 Front Control Arms

Serial No. All

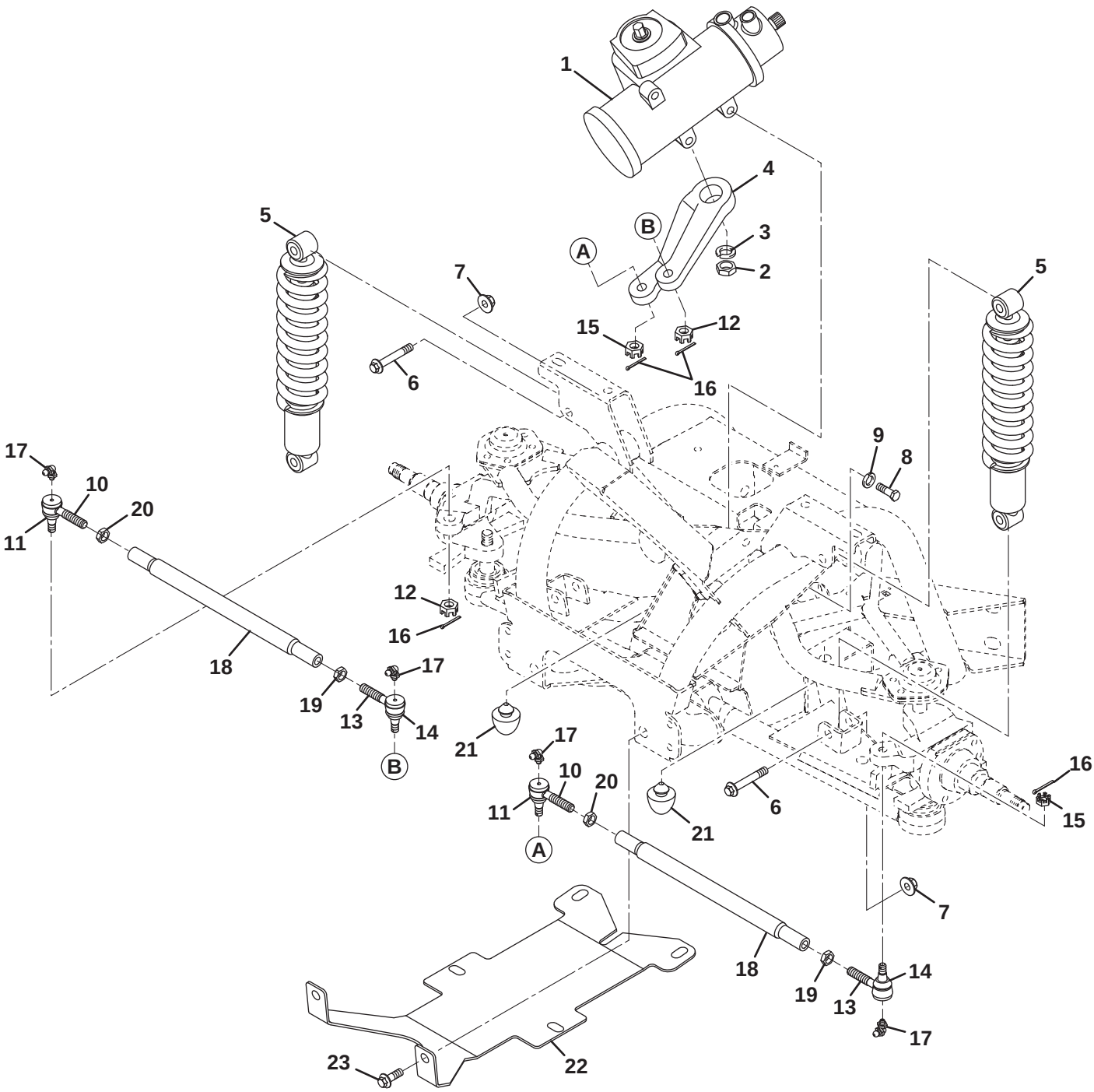


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4120138	1	Frame, 4 Wheel Steering	
2	893266	2	Upper Control Arm	
3	893233	1	Left Side Lower Control Arm	
4	893234	1	Right Side Lower Control Arm	
5	844148	2	Upper Ball Joint	
6	N/S	1	• Boot	
7	N/S	1	• Boot Retainer	
8	N/S	4	• Screw, 5/16-24 x 1 in. Hex Head	Black Oxide Finish, Grade 8
9	N/S	4	• Lockwasher, 5/16	Black Oxide Finish
10	548079	4	• Nut, 5/16-24 Hex	Black Oxide Finish
11	306839	1	• Nut, 5/8-18 Slotted Hex	
12	460030	1	• Cotter Pin, 1/8 x 1-1/4 in.	
13	471221	1	• Grease Fitting, 1/4-28 90°	
14	841429	2	Lower Ball Joint	
15	N/S	1	• Boot	
16	800861	1	• Nut, 9/16-18 Slotted Hex	
17	460030	1	• Cotter Pin, 1/8 x 1-1/4 in.	
18	548224	1	• Grease Fitting, 1/4-28 Straight	Special Drive Thread
19	841167	8	Bushing, Silentbloc	
20	450382	8	Nut, M16-2 Locking Insert	
21	450077	4	Bolt, M16-2 x 90 mm Hex Head	Grade 8.8
22	450393	8	Washer, M16	
23	894573	1	Knuckle, Left Side Steering	
24	894574	1	Knuckle, Right Side Steering	
25	841630	2	Trunnion, Control Arm	
26	800945	4	Bolt, M12-1.75 x 60 mm Hex Head	Grade 10.9
27	841738	AR	Shim, .024 in. Thick	Add or remove shims as required to adjust **CASTER** angle.
28	841737	AR	Shim, .060 in. Thick	Add or remove shims as required to adjust **CAMBER** angle.
29	810437	2	Clamp	

> Change from previous revision

18.1 Steering Linkage

Serial No. All

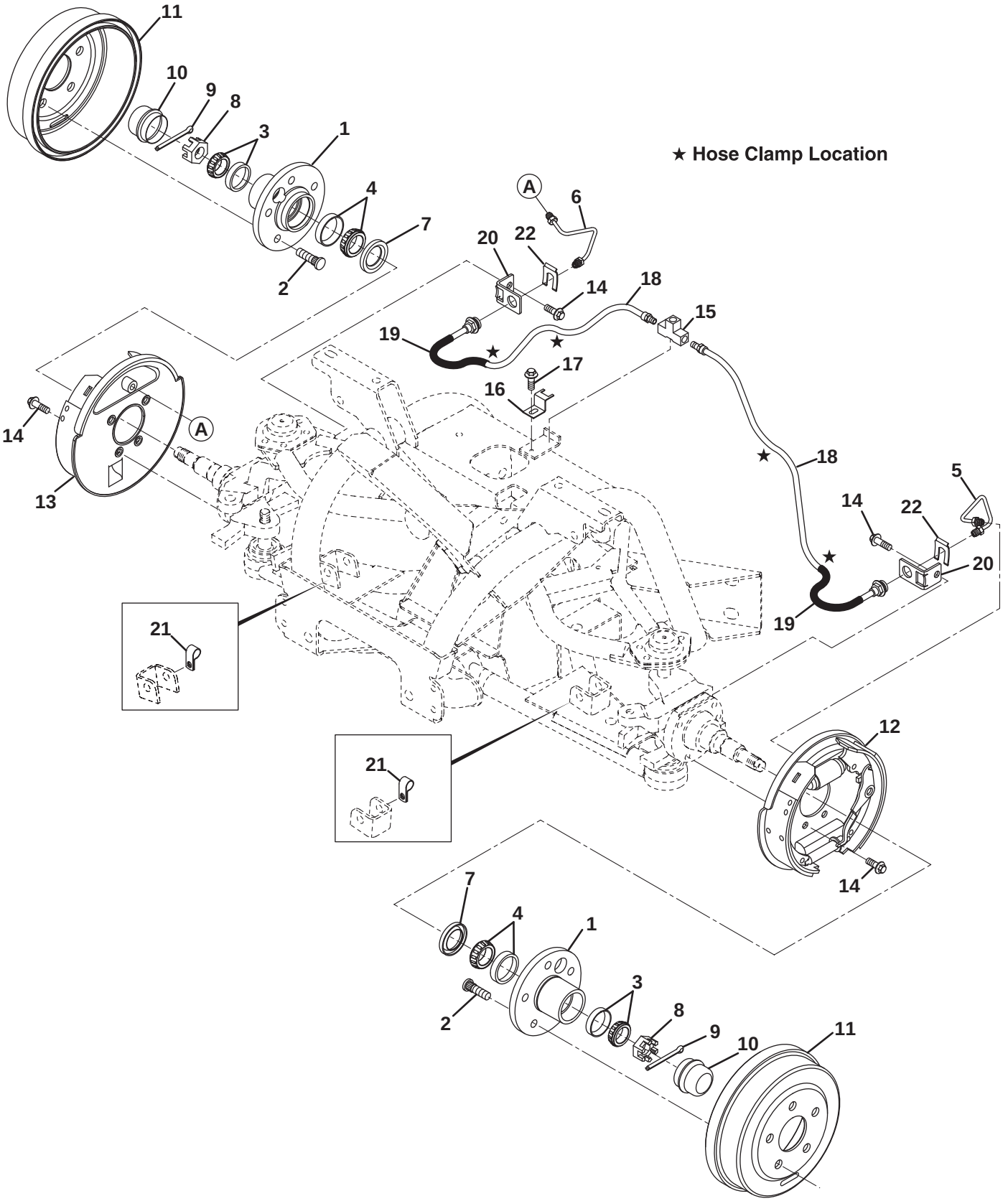


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	841255	1	Steering Gear	
2	305134	1	• Nut, 7/8-14 Hex Jam	
3	308008	1	• Lockwasher, 7/8	
4	841336	1	Arm, Pitman	
5	894635	2	Strut Assembly	
6	800945	4	Screw, M12-1.75 x 60 mm Hex Head	
7	450455	4	Nut, M12-1.75 Hex Flange	Grade 10.9
8	311392	3	Screw, 7/16-14 x 2 in. Hex Head	
9	303269	3	Lockwasher, 7/16	
10	889681	2	End, Left Hand Thread Tie Rod	
11	816586	1	• Retainer, Grease	
12	306825	1	• Nut, 7/16-20 Castle	
13	887512	2	End, Right Hand Thread Tie Rod	
14	816586	1	• Retainer, Grease	
15	306825	1	• Nut, 7/16-20 Castle	
16	304636	4	Cotter Pin, 1/8 x 1-1/8 in.	
17	831405	4	Grease Fitting	
18	841404	2	Tie Rod	
19	800485	1	Nut, 9/16-18 Left Hand Thread Jam	
20	302944	2	Nut, 9/16-18 Right Hand Thread Jam	
21	813850	2	Bumper, Travel Limiting	
22	842033	1	Plate, Skid	
23	452408	6	Screw, M10-1.75 x 20 mm	Grade 10.9

> Change from previous revision

19.1 Front Brakes

Serial No. All

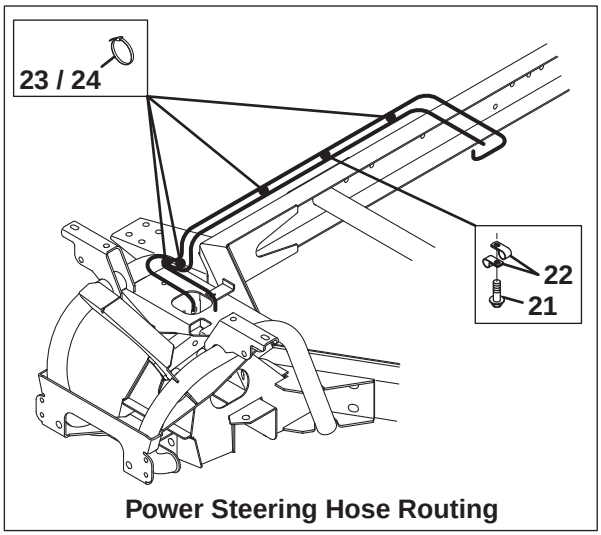


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2702257.7	2	Front Hub	Includes cup portion of Items 3 & 4
2	800908	4	• Bolt, M12-1.5 x 42 mm Wheel	
3	500534	2	Outer Bearing Cup and Cone	
4	500596	2	Inner Bearing CUp and Cone	
5	2702217	1	Tube, Left Front Brake	
6	841839	1	Tube, Right Front Brake	
7	817928	2	Seal, Grease	
8	2702247	2	Nut, 3/4-16 Castle	
9	304636	2	Cotter Pin, 1/8 x 1-1/8 in.	
10	817250	2	Cap, Grease	
11	841430	2	Brake Drum	
12	893585	1	Front Left Side Brake Assembly	
	894930	1	• Kit, Brake Cylinder	Replacement of Cylinder
	894931	1	• Kit, Brake Cylinder Repair	Repair of Cylinder
	2701253	1	• Kit, Brake Shoe	Includes Left and Right sides
	894933	1	• Kit, Left Side Spring	
	894935	1	• Kit, Left Side Adjuster Repair	
13	893586	1	Front Right Side Brake Assembly	
	894930	1	• Kit, Brake Cylinder	Replacement of Cylinder
	894931	1	• Kit, Brake Cylinder Repair	Repair of Cylinder
	2701253	1	• Kit, Brake Shoe	Includes Left and Right sides
	894934	1	• Kit, Right Side Spring	
	894936	1	• Kit, Right Side Adjuster Repair	
14	452398	10	Screw, M10-1.5 x 20 mm Hex Flange	Grade 8.8
15	841842	1	Tee, M10-1.0 Flare Union	
16	843418	1	Clamp, Tee	
17	452692	1	Screw, M6-1.0 x 12 mm Taptite	
18	841841	2	Hose, Brake	
19	2703081	2	Protector, Brake Hose	
20	842104	2	Bracket, Brake Tube	
21	810437	2	Clamp, Hose	
22	809137	2	Clip, Brake Hose Retaining	

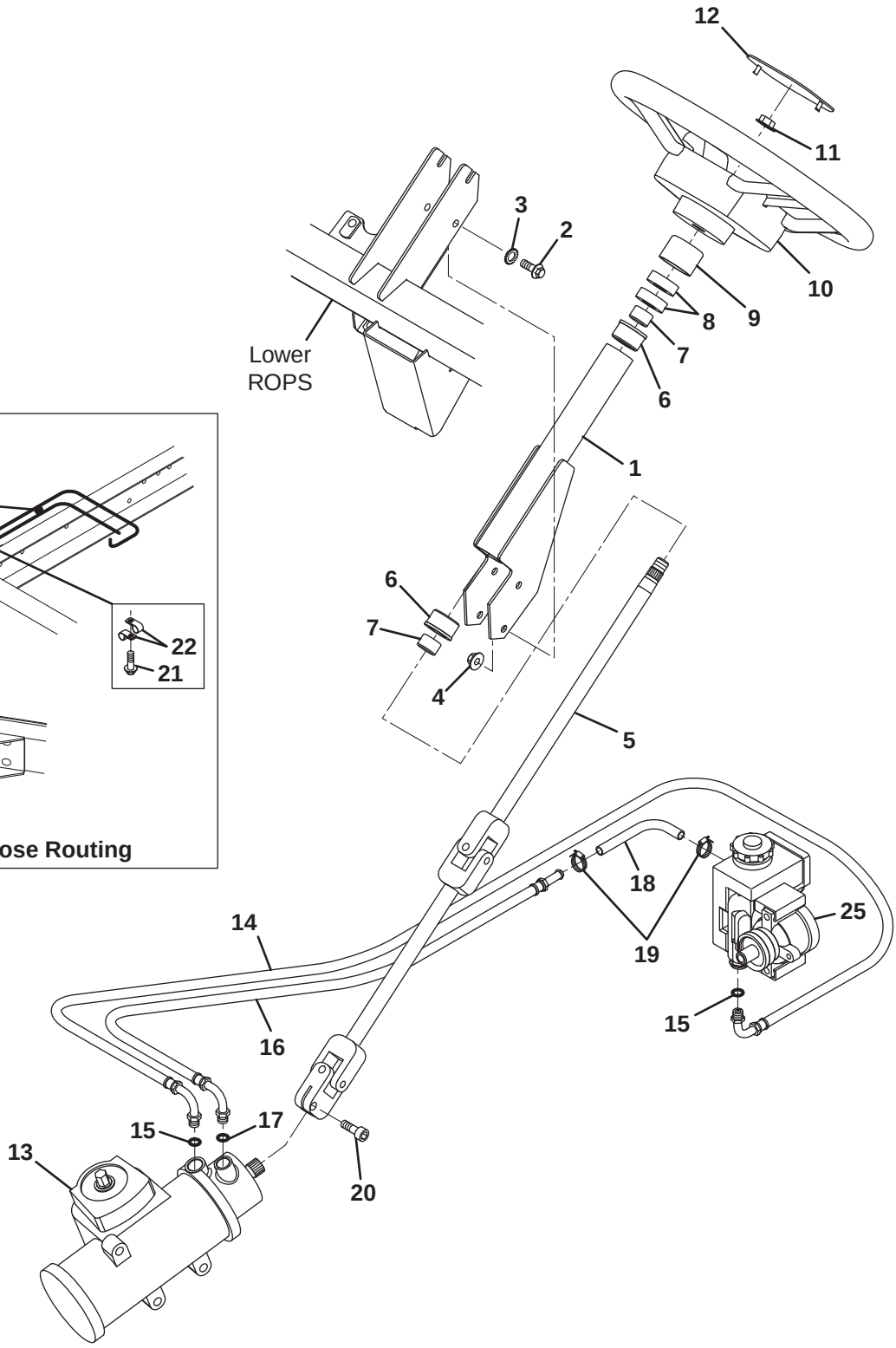
> Change from previous revision

20.1 Steering Column

Serial No. All



Power Steering Hose Routing

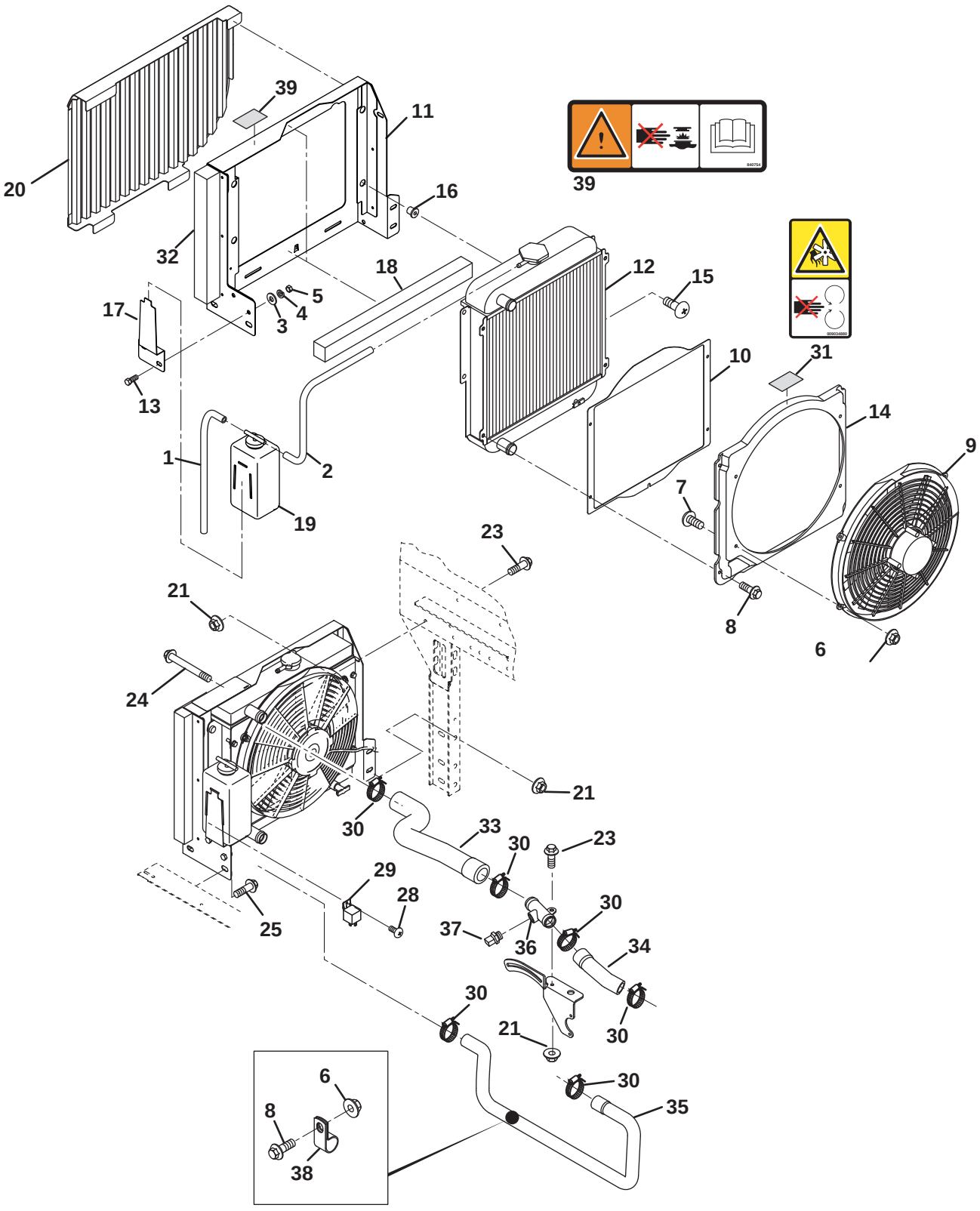


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	893571	1	Tube, Steering Mount	
2	800930	4	Screw, M8-1.25 x 16 mm Flange	
3	306799	4	Lockwasher, 5/16 External Tooth	
4	450453	4	Nut, M8-1.25 Flange	
5	893344	1	Shaft, Steering	
	887259	2	Bearing Assembly	
6	828590	1	• Housing, Bearing	
7	808060	1	• Bearing, Needle	
8	819923	2	Collar, Foam	
9	2700453	1	Cover, Steering Tube	
10	892228	1	Steering Wheel	
11	450457	1	Nut, M16-2 Flange	
12	892486	1	Cover, Steering Wheel	
13	841255	1	Gear, Steering	See 18.1
14	843767	1	Hose, Power Steering Pressure	
15	111838	2	• O-Ring	
16	843768	1	Hose, Power Steering Return	
17	111838	1	• O-Ring	
18	840222	1	Hose, Formed	
19	830930	2	Clamp, Hose	
20	450739	1	Screw, M10-1.5 x 30 mm Socket	
21	800943	1	Screw, #10-14 x 5/8 in. Self Tapping	
22	809092	2	Clamp, Tube	
23	320107	3	Cable Tie, 7-1/2 in.	Secure hoses together
24	473142	4	Cable Tie, 15-1/2 in.	Secure Hoses to Frame
25	REF	1	Power Steering Pump with Reservior	See 26.1 or 27.1

> Change from previous revision

21.1 Diesel Radiator

Serial No. 84063 All
Serial No. 84064 All

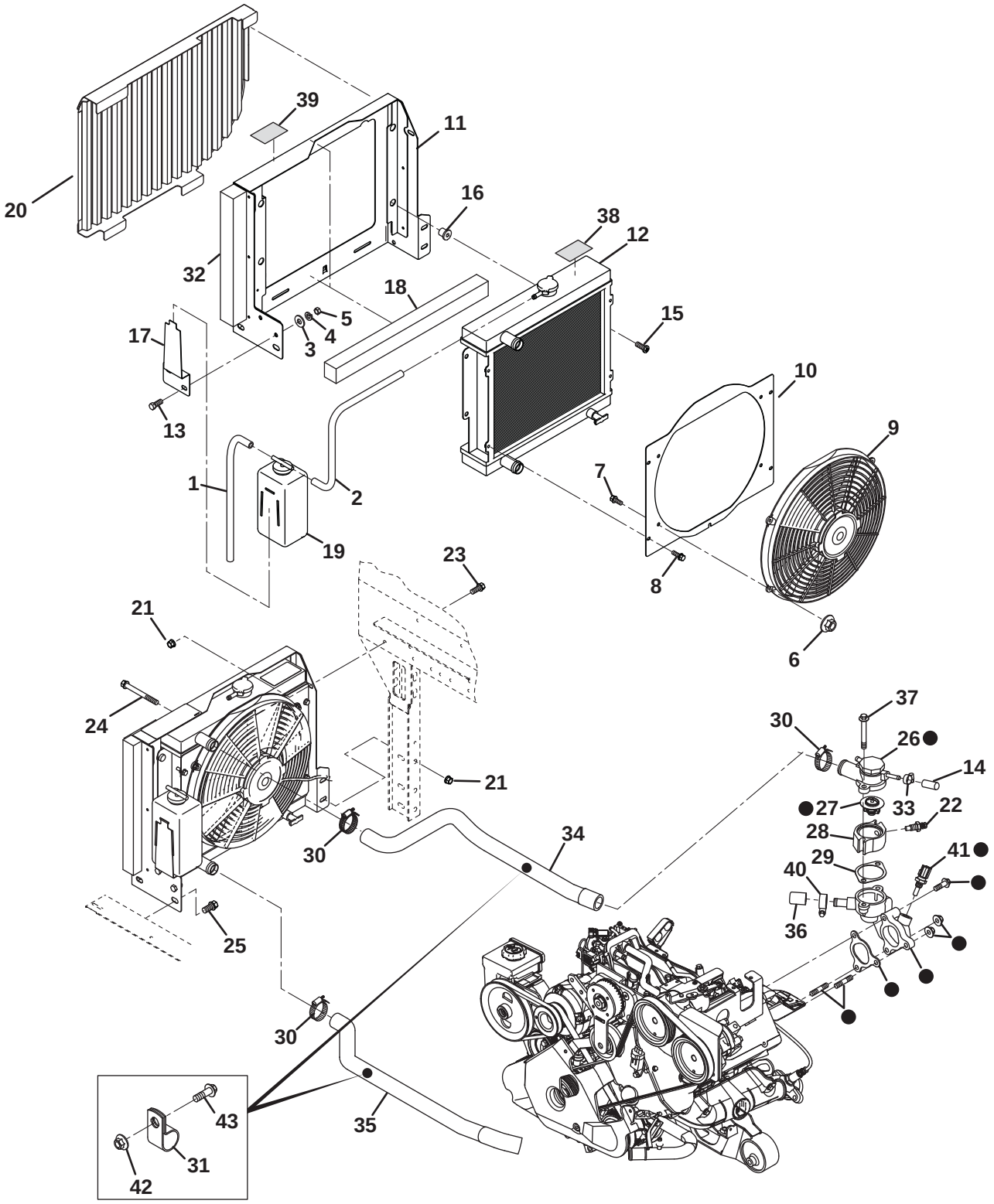


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	843862	AR	Tube, 1/4 in. I.D. Clear Vinyl	10 Foot Length, Cut to 12 in.
2	835805	AR	Hose, Radiator Overflow	
★ 3	452006	2	Flat Washer, 5/16	
★ 4	446134	2	Lockwasher, 5/16	
★ 5	443106	2	Nut, 5/16-18 Hex	
6	450452	6	Nut, M6-1 Hex Flange	
7	450541	4	Screw, M6-1 x 16 mm Hex Flange	
8	452378	6	Screw, M6-1 x 20 mm Hex Flange	
9	4176887	1	Fan, 12 in. Hi-Perf Puller	
10	600992	1	Panel, Shroud	
★ 11	4238927	1	Frame, Radiator	
12	601592	1	Radiator	
13	400184	2	Screw, 5/16-18 x 3/4” Hex Head	
14	4177253	1	Shroud, 12 in. Fan	
15	800177	4	Screw, 5/16-18 x 3/4 in.	
16	831846	4	Nut, Isolation	
★ 17	4238925	1	Bracket, Radiator Bottle	
18	833512	2	Seal, Radiator Foam	
★ 19	553926	1	Overflow Bottle	
20	4175402	1	Screen, Right Side	
21	450453	3	Nut, M8-1.25 Hex Flange	
22	4179800	1	Harness, Oil Cooler Fan Wiring	Not Shown, See 55.1
23	452388	2	Screw, M8-1.25 x 20 mm Hex Flange	
24	452395	1	Screw, M8-1.25 x 80 mm Hex Flange	
25	452398	2	Screw, M10-1.5 x 20 mm Hex Flange	
26	4179801	1	Harness, Radiator Fan Wiring	Not Shown, See 55.1
27	4174321	1	Harness, Kubota Engine Wiring	Not Shown, See 55.1
28	800146	1	Screw, #10 x 3/4 Thread Cutting	
29	4221100	1	Relay, 12V 70A	
30	820889	6	Clamp, Hose	
31	009034880	1	Decal, Fan Warning	
32	4140090	1	Foam 1.25 x 1.00 x 13.50	
33	4174820	1	Hose, Upper Radiator	
34	4174660	1	Hose, Upper	
35	4174563	1	Hose, Lower Radiator	
36	894348	1	Tube, Fan Switch	
37	17680-50F70	1	Switch, Fan	
38	825884	2	Clamp, Hose	
39	840754	1	Decal, Radiator Pressure Warning	
★	Update kit 4239742 is required to update vehicles with the following serial numbers: 8406301651 ~ 8406301856 8406401651 ~ 8406401860			

> Change from previous revision

22.1 Gas Radiator

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

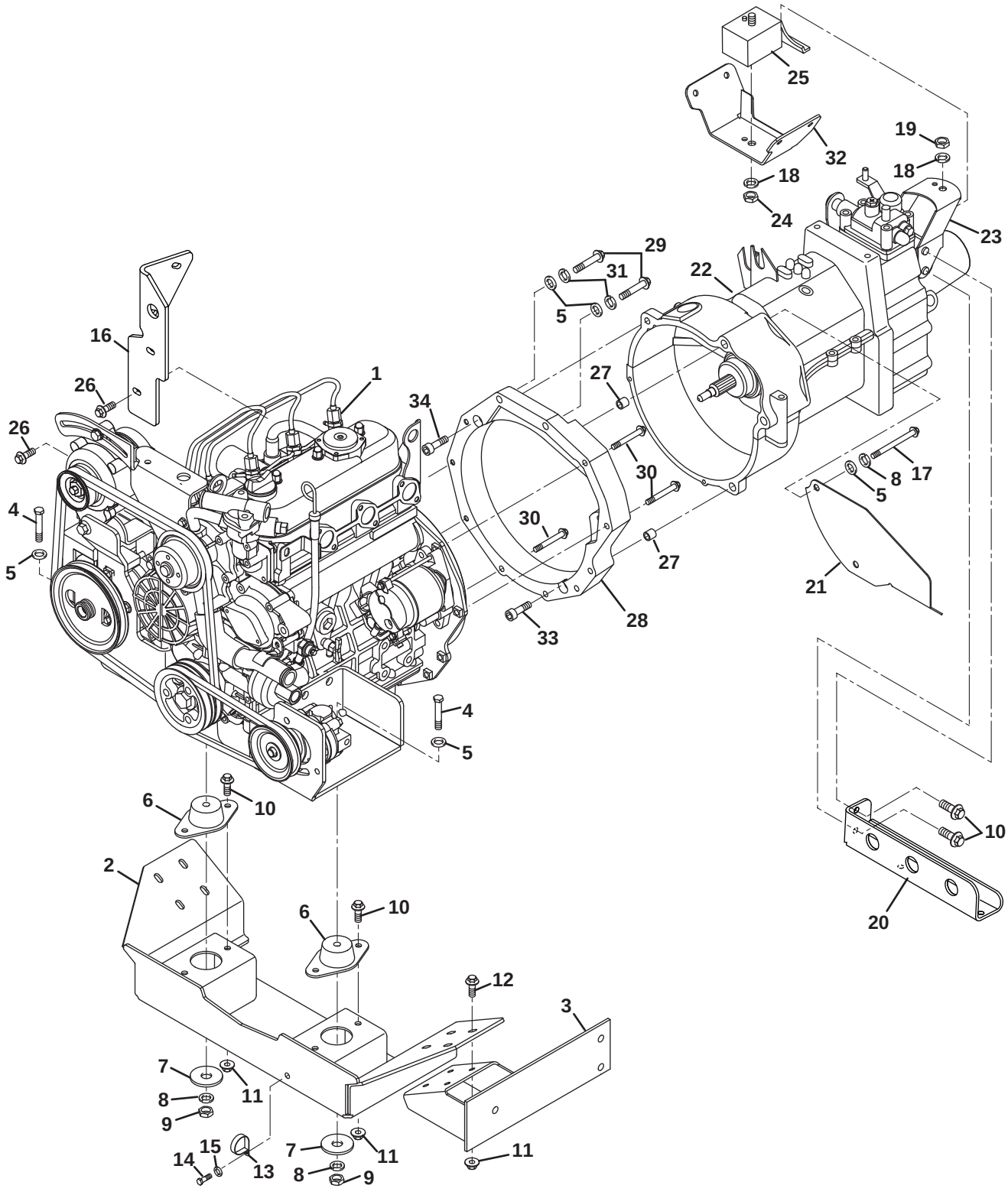


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	843862	AR	Tube, 1/4 in. I.D. Clear Vinyl	10 Foot Length, Cut to 12”
2	835805	AR	Hose, Radiator Overflow	
3	452006	2	Flat Washer, 5/16	
4	446134	2	Lockwasher, 5/16	
5	443106	2	Nut, 5/16-18 Hex	
6	450452	4	Nut, M6-1 Hex Flange	
7	450541	4	Screw, M6-1 x 16 mm Hex Flange	
8	452378	4	Screw, M6-1 x 20 mm Hex Flange	
9	4115033	1	Fan, 13 in. Radiator	
10	4241843	1	Panel, Fan Mounting	
11	4238927	1	Frame, Radiator	
12	601592	1	Radiator	
13	400184	2	Screw, 5/16-18 x 3/4” Hex Head	
14	845224	1	Cap, 1/4 x 1 in.	
15	800177	4	Screw, 5/16-18 x 3/4 in.	
16	831846	4	Nut, Isolation	
17	4238925	1	Bracket, Radiator Bottle	
18	833512	2	Seal, Radiator Foam	
19	553926	1	Overflow Bottle	
20	4175402	1	Screen, Right Side	
21	450453	2	Nut, M8-1.25 Hex Flange	
22	843857	1	Sender, Temperature	
23	452388	2	Screw, M8-1.25 x 20 mm Hex Flange	
24	452395	1	Screw, M8-1.25 x 80 mm Hex Flange	
25	452398	2	Screw, M10-1.5 x 20 mm Hex Flange	
● 26	4120076	1	Cap, Water Thermostat	
● 27	4148206	1	Thermostat, 88° C	
28	2701442	1	Housing, Temperature Sender	
29	2701513	1	Gasket, Thermostat	
30	820889	4	Clamp, Hose	
31	2701108	2	Clamp, Hose	
32	4140090	1	Foam, 1-1/4 x 1 x 13 in.	
33	11391G4	1	Clamp, 1/4 to 5/8 in. Worm Drive	
34	4139442	1	Hose, Upper	
35	4115400	1	Hose, Lower Radiator	
36	833715	1	Plug, Tube	
37	452392	2	Screw, M8-1.25 x 50 mm Flange	
38	009034880	1	Decal, Fan Warning	
39	840754	1	Decal, Radiator Pressure Warning	
40	832033	1	Clamp, Hose	
● 41	4148150	1	Sensor, Water Temperature	
42	548910	2	Nut, 1/4-20 Hex Flange	
43	548827	2	Screw, 1/4-20 x 1/2 in. Hex Flange	

> Change from previous revision

23.1 Diesel Engine and Transmission Mounting

Serial No. 84063 All
Serial No. 84064 All

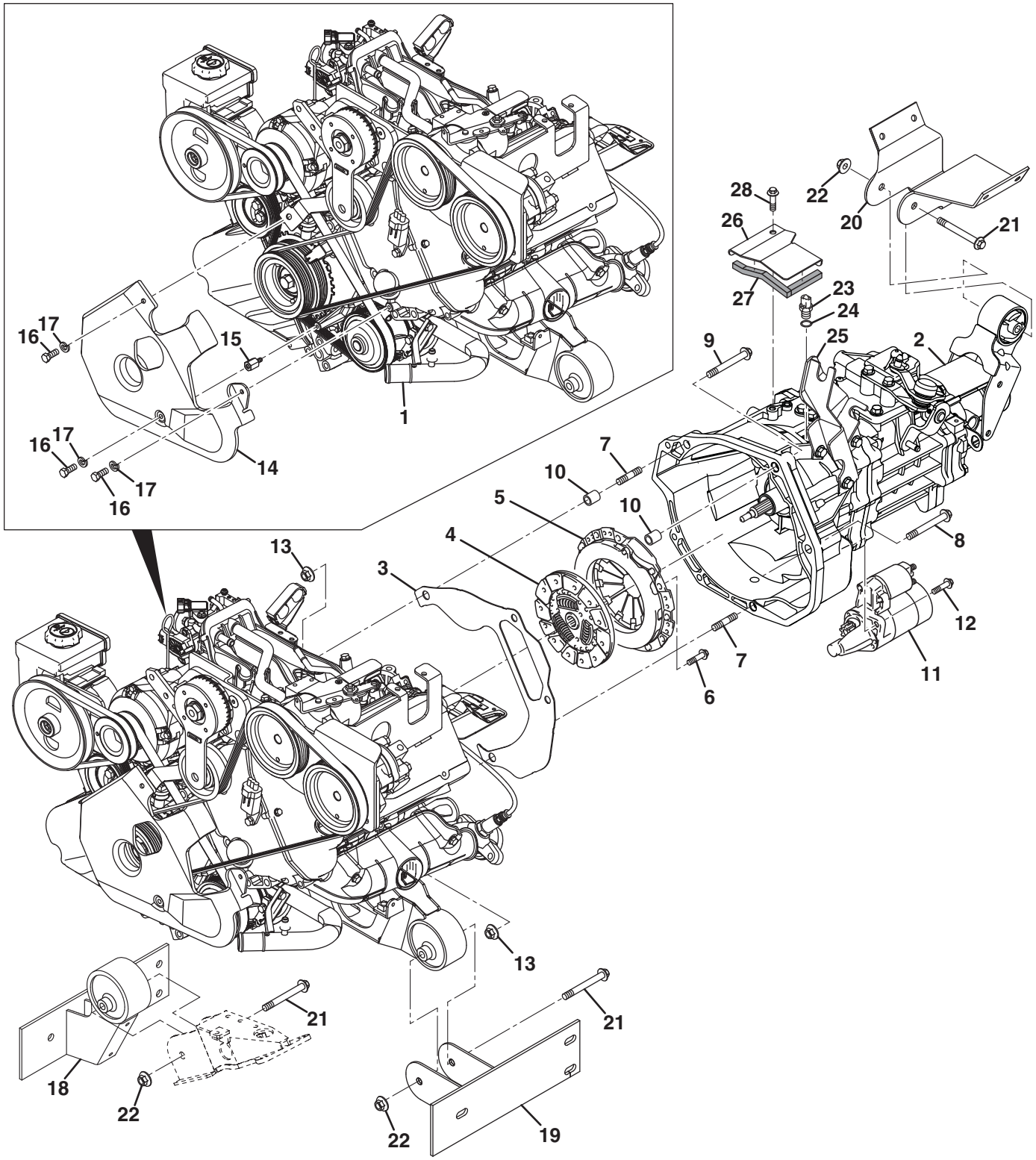


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Engine and Clutch	See 26.1
2	4192125	1	Frame, Engine Mount	
3	REF	1	Mount, Engine	See 14.1, Left shown, right similar
4	306836	2	Screw, 3/8-16 x 2-1/4 in. Hex Head	
5	306981	6	Flat Washer, 3/8	
6	841885	2	Mount, Engine Isolation	
7	809174	2	Washer, Isolator	
8	120177	4	Lockwasher, 3/8	
9	306562	2	Nut, 3/8-16 Hex	
10	452388	6	Screw, M8-1.25 x 20 mm Flange	
11	450453	12	Nut, M8-1.25 Flange	
12	452389	8	Screw, M8-1.25 x 25 mm Flange	
13	825884	1	Clamp	
14	400108	1	Screw, 1/4-20 x 1” Hex Head	
15	452004	1	Flat Washer, 1/4	
16	4174285	1	Bracket, Air FIlter Mount	
17	548849	2	Screw, 3/8-16 x 4-3/4 in. Hex Head	
18	450412	2	Lockwasher, M10	
19	800571	1	Nut, M10-1.25 Hex	
20	4191140	1	Bracket, Muffler	
21	4174286	1	Cover, Starter Hole	
22	894066	1	Transmission, Suzuki MT5	Includes Clutch Disc and Cover
23	11741-85200	1	• Support, Transmission	
24	08310-00103	1	• Nut	
25	11710-77100	1	• Bracket, Rear Mount	
26	452390	3	Screw, M8-1.25 x 30 mm Flange	
27	842961	2	Sleeve, Alignment	
28	4173062	1	Adapter, Transmission	
29	838602	2	Screw, M10-1.5 x 50 mm Hex Head	
30	452393	5	Screw, M8-1.25 x 60 mm Flange	
31	303269	2	Lockwasher, 7/16	
32	4174281	1	Mount, Transmission	See 14.1
33	800949	1	Screw, M10-1.25 x 50 mm Socket	
34	800948	1	Screw, M10-1.25 x 35 mm Socket	

> Change from previous revision

24.1 Gas Engine and MT Mounting

Serial No. 84067 All
Serial No. 84069 All

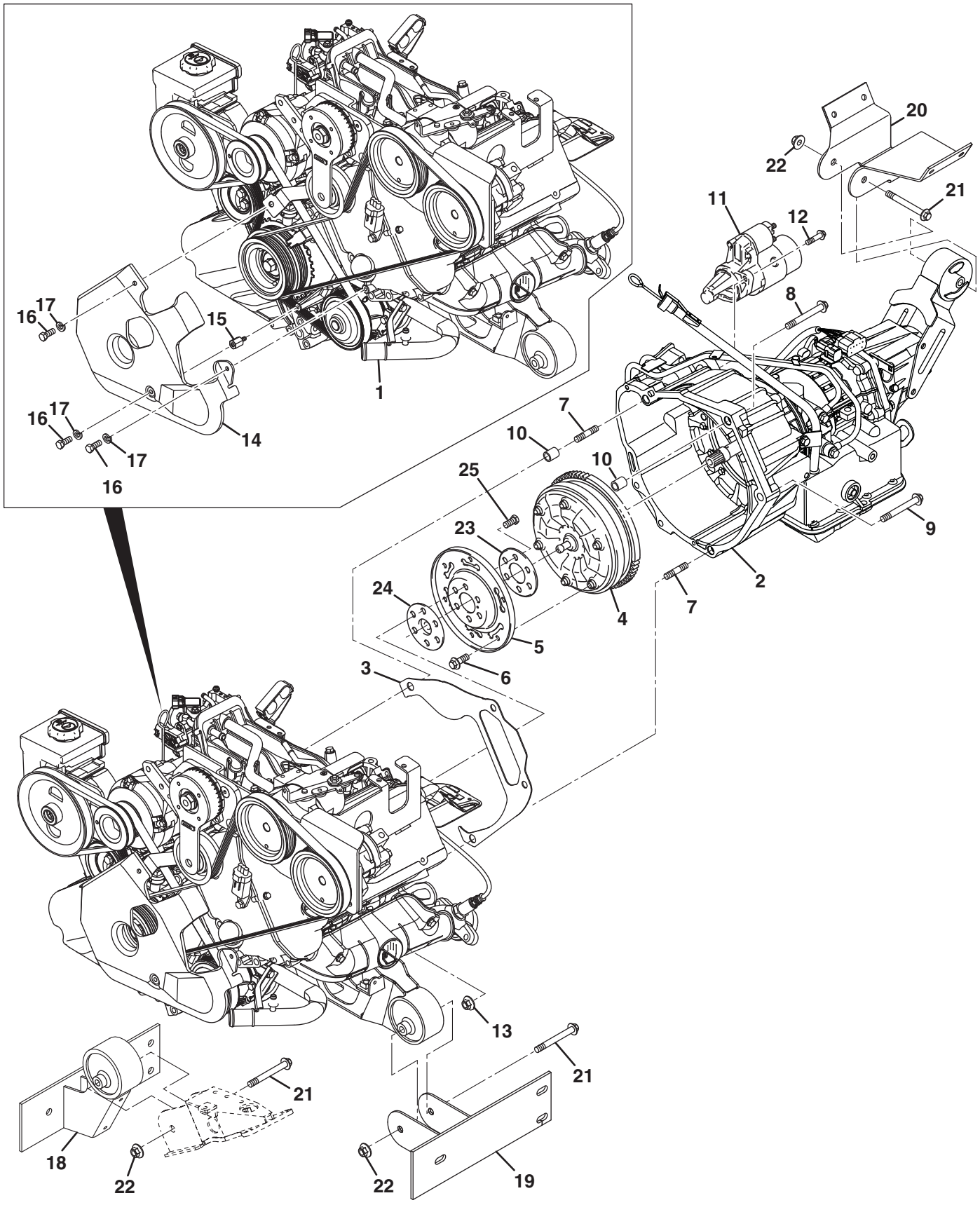


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Engine Assembly	See 27.1
2	N/S	1	Manual Transmission	Order with engine
3	4140899	1	Plate, Clutch Housing	
4	2702548	1	Clutch Disc and Pressure Plate Set	
5	4117900	1	• Pressure Plate	Limited Availability
6	2702547	6	Screw, M8-1.25 x 16 mm Lockwasher	
7	2702688	2	Stud, M10-1.25 x 65 mm	
8	2702687	1	Screw, M10-1.25 x 75 mm Flange	
9	2702686	1	Screw, M10-1.25 x 55 mm Flange	
10	2702690	2	Alignment Pins	
11	4148360	1	Starter, Manual Transmission	
12	2702470	2	Screw, M8-1.25 x 30 mm Hex Flange	
13	2702689	2	Nut, M10-1.25 Hex Flange	
14	4233440	2	Cover, Belt	
15	4235369	1	Standoff, M6-1 x 25 mm	
16	450169	3	Screw, M6-1 x 14 mm Hex Head	
17	450410	3	Lockwasher, M6	
18	894998.7	1	Left Engine Mount	See 14.1
19	2701697.7	1	Right Engine Mount	See 14.1
20	4179803	1	Transmission Mount	See 14.1
21	452405	3	Screw, M10-1.5 x 80 mm Flange	
22	450454	3	Nut, M10-1.5 Hex Flange	
23	4138391	1	Switch, Reverse	
24	4148082	1	O-Ring	
25	4142772	1	Bracket, Cable Mounting	
26	4203381	1	Cover, Vent Hole	
27	4203360	1	Seal	Cut into two pieces. One 4-1/2 in. (114 mm), one 2-1/4 in. (57 mm)
28	452389	1	Screw, M8-1.25 x 25 mm Hex Flange	

> Change from previous revision

25.1 Gas Engine and AT Mounting

Serial No. 84068 All

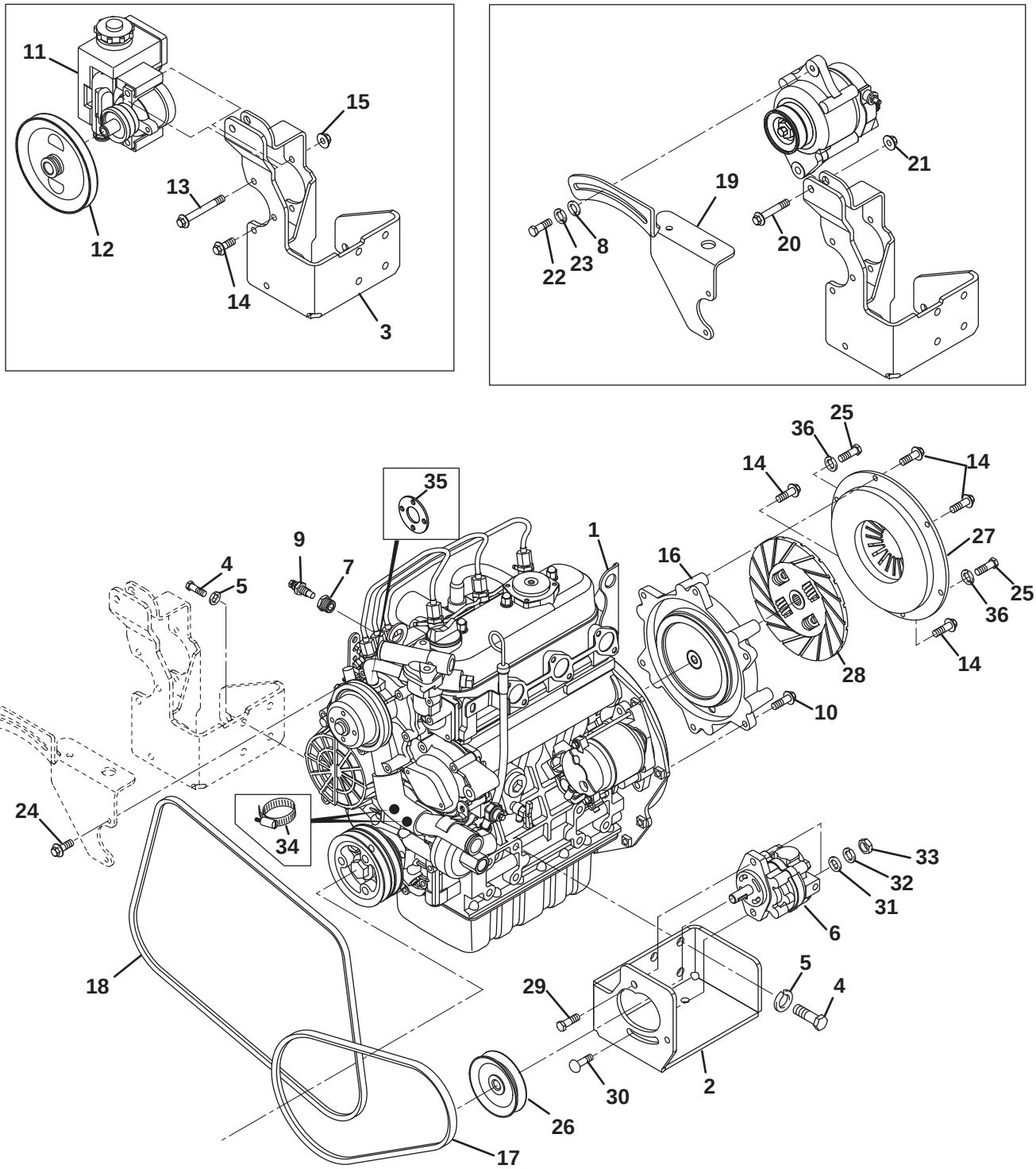


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Engine Assembly	See 27.1
2	4148212	1	Automatic Transmission	
3	4140900	1	Plate, Transmission Housing	
4	4148213	1	Torque Converter	
5	4120097	1	Plate, Drive	
6	4148065	6	Screw, M8-1.25 x 9.5 mm Flange	
7	2702688	2	Stud, M10-1.25 x 65 mm	
8	2702686	1	Screw, M10-1.25 x 55 mm Flange	
9	2702756	1	Screw, M10-1.25 x 50 mm Flange	
10	2702690	2	Alignment Pins	
11	4148361	1	Starter, Automatic Transmission	
12	2702470	2	Screw, M8-1.25 x 30 mm Hex Flange	
13	2702689	2	Nut, M10-1.25 Hex Flange	
14	4233440	2	Cover, Belt	
15	4235369	1	Standoff, M6-1 x 25 mm	
16	450169	3	Screw, M6-1 x 14 mm Hex Head	
17	450410	3	Lockwasher, M6	
18	894998.7	1	Left Engine Mount	See 14.1
19	2701697.7	1	Right Engine Mount	See 14.1
20	4179803	1	Transmission Mount	See 14.1
21	452405	3	Screw, M10--1.5 x 80 mm Flange	
22	450454	3	Nut, M10-1.5 Hex Flange	
23	4120098	1	Plate, Rear Drive	
24	4120096	1	Flange, Drive Plate	
25	4119955	6	Screw, M10-1.25 x 18.5 mm	

> Change from previous revision

26.1 Diesel Engine and Clutch

Serial No. 84063 - 1651~xxxx
Serial No. 84064 - 1651~xxxx

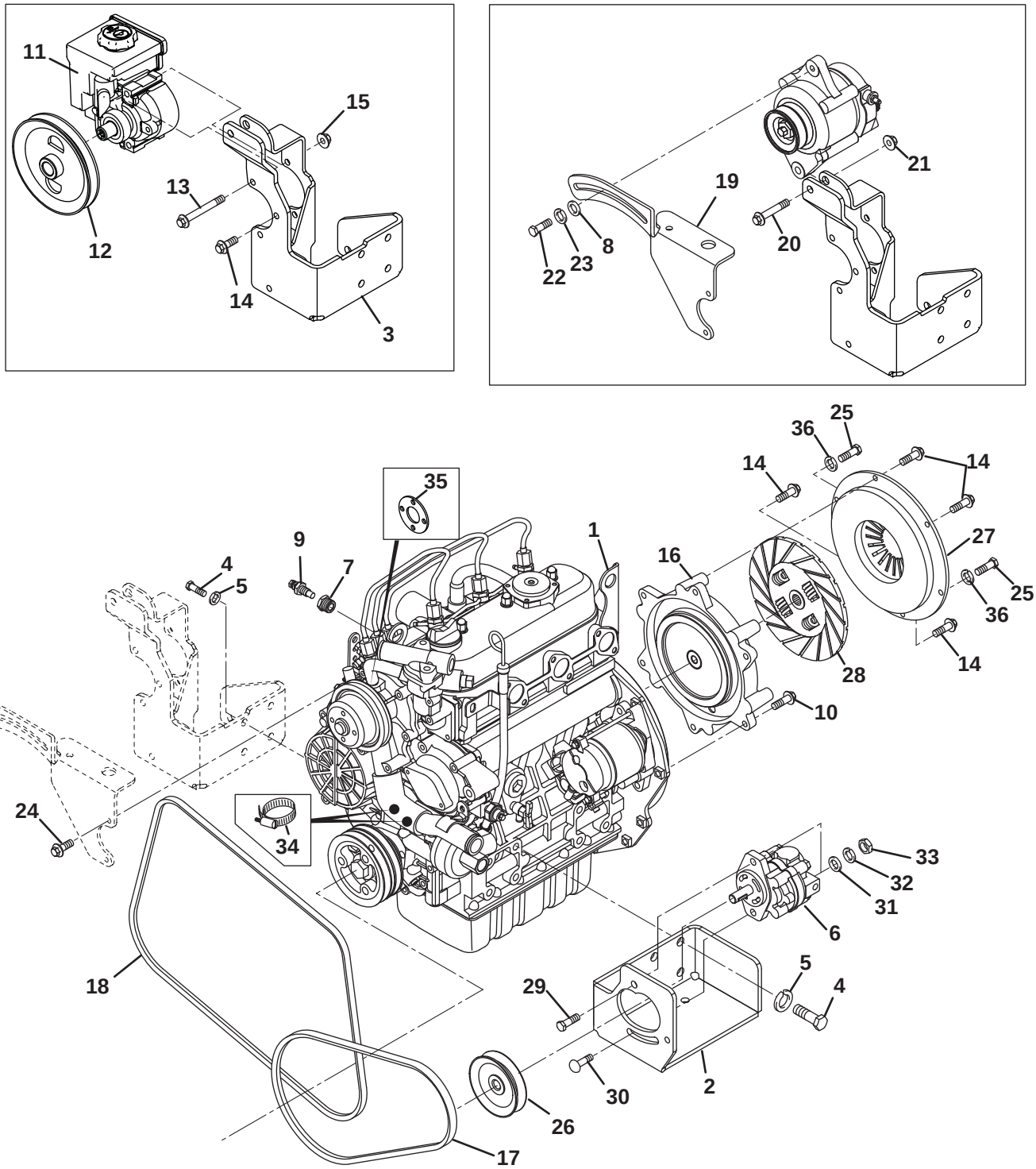


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4173201	1	Engine, Kubota D1105 E3B	
	4113986	1	• Engine Oil Filter	
	4183623	1	• Alternator	
2	4174200	1	Bracket, Hydraulic Pump	
3	4174440	1	Mount, Right Side Engine	
4	800547	8	Screw, M10-1.25 x 20 mm Flange	
5	303269	8	Lockwasher, 7/16	
6	887994	1	Pump, Hydraulic	See 40.1
7	4174260	1	Reducer, 3/8 NPSF to 1/8 BPT	
8	103867	1	Flat Washer, 5/16	
9	843857	1	Temperature Sender	
10	452389	9	Screw, M8-1.25 x 25 mm Flange	
11	892534	1	Pump, Power Steering	See 20.1
12	600993	1	Pulley, 5.8 in. Power Steering	
13	452395	2	Screw, M8-1.25 x 80 mm Flange	
14	452388	5	Screw, M8-1.25 x 20 mm Flange	
15	450453	2	Nut, M8-1.25 Flange	
16	4173262	1	Ring, Pressure Plate	
17	4117092	1	Belt, Hydraulic Pump	
18	4175560	1	Belt, Alternator - Power Steering	
19	4174282	1	Bracket, Alternator Adjusting	
20	452402	1	Screw, M10-1.5 x 50mm Flange	
21	450454	1	Nut, M10-1.5 Flange	
22	361005	1	Screw, M8-1.25 x 25 mm Hex Head	
23	306325	3	Lockwasher, 5/16	
24	2500917	2	Screw, M6-1 x 25 mm Flange	Included with Engine
25	09111-08035	2	Screw, M8-1.25 Special	Included with Transmission
26	4173980	1	Pulley, Hydraulic Pump Drive	
27	22100-85200	1	Cover, Clutch	Included with Transmission
28	22400-85141	1	Disc, Clutch	Included with Transmission
29	306835	1	Screw, 3/8-16 x 1-1/4 in. Hex Head	
30	800073	1	Carriage Bolt, 3/8-16 x 1-1/4 in.	
31	306981	2	Flat Washer, 3/8	
32	120177	2	Lockwasher, 3/8	
33	306562	2	Nut, 3/8-16 Hex	
34	820899	2	Clamp, Hose	Used to protect hose from belt
35	4186780	1	Plate, Spacer	Located behind water pump pulley
36	450422	2	Lockwasher, M8	

> Change from previous revision

26.2 Diesel Engine and Clutch

Serial No. 84063 - xxxx and Up
Serial No. 84064 - xxxx and Up

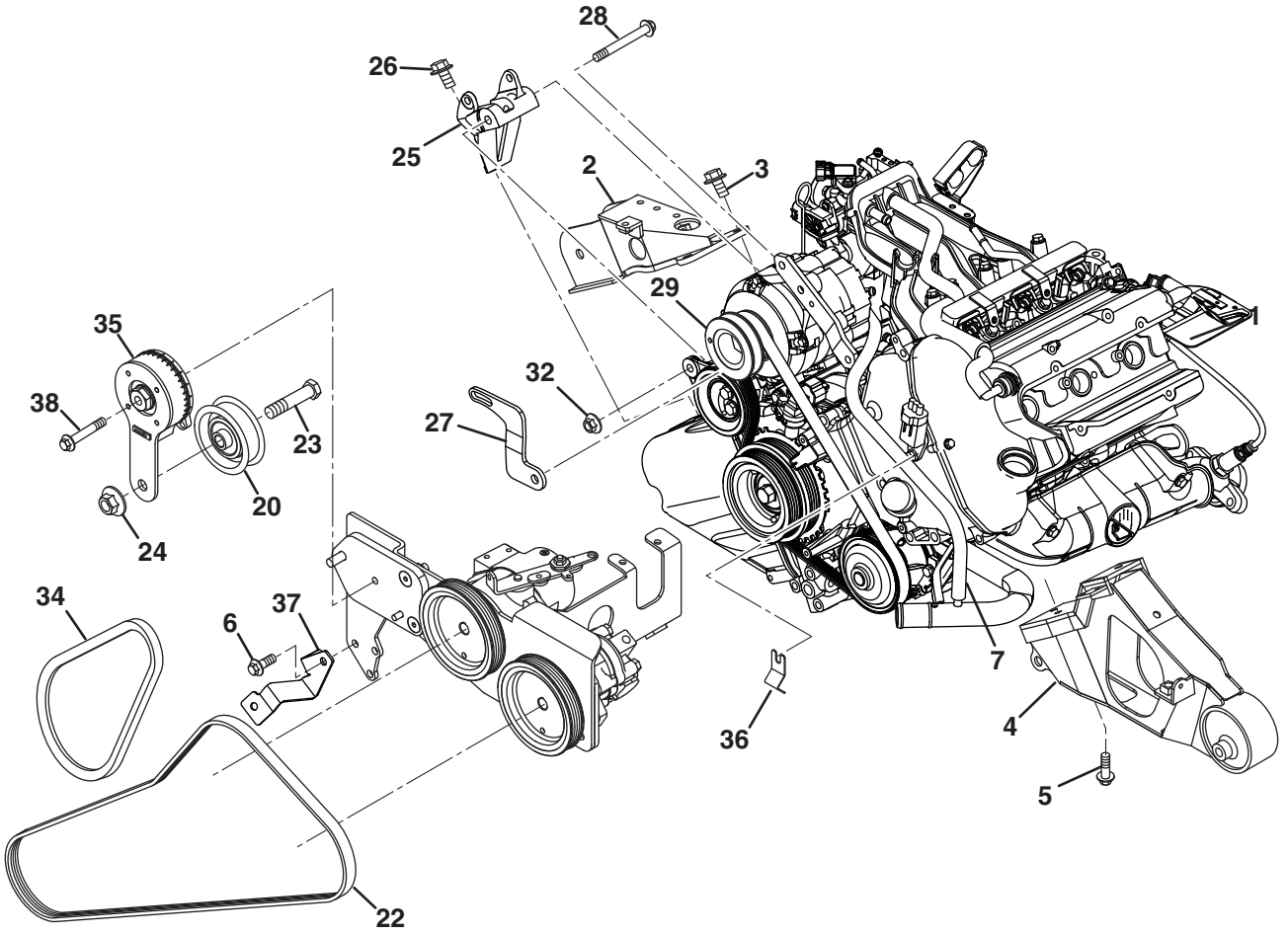


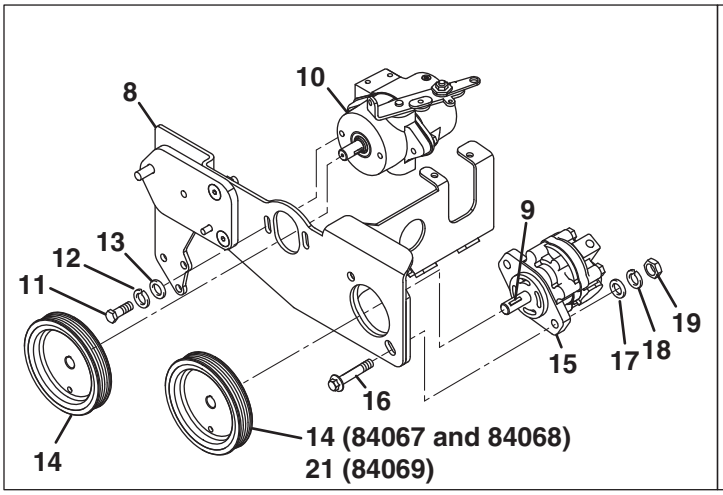
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4173201	1	Engine, Kubota D1105 E3B	
	4113986	1	• Engine Oil Filter	
	4183623	1	• Alternator	
2	4174200	1	Bracket, Hydraulic Pump	
3	4209665	1	Mount, Right Side Engine	
4	800547	8	Screw, M10-1.25 x 20 mm Flange	
5	303269	8	Lockwasher, 7/16	
6	887994	1	Pump, Hydraulic	See 40.1
7	4174260	1	Reducer, 3/8 NPSF to 1/8 BPT	
8	103867	1	Flat Washer, 5/16	
9	843857	1	Temperature Sender	
10	452389	9	Screw, M8-1.25 x 25 mm Flange	
11	4216305	1	Pump, Power Steering	See 20.1
12	4210205	1	Pulley, 5.8 in. Power Steering	
13	452395	2	Screw, M8-1.25 x 80 mm Flange	
14	452388	5	Screw, M8-1.25 x 20 mm Flange	
15	450453	2	Nut, M8-1.25 Flange	
16	4173262	1	Ring, Pressure Plate	
17	4117092	1	Belt, Hydraulic Pump	
18	4175560	1	Belt, Alternator - Power Steering	
19	4174282	1	Bracket, Alternator Adjusting	
20	452402	1	Screw, M10-1.5 x 50mm Flange	
21	450454	1	Nut, M10-1.5 Flange	
22	361005	1	Screw, M8-1.25 x 25 mm Hex Head	
23	306325	3	Lockwasher, 5/16	
24	2500917	2	Screw, M6-1 x 25 mm Flange	Included with Engine
25	09111-08035	2	Screw, M8-1.25 Special	Included with Transmission
26	4173980	1	Pulley, Hydraulic Pump Drive	
27	22100-85200	1	Cover, Clutch	Included with Transmission
28	22400-85141	1	Disc, Clutch	Included with Transmission
29	306835	1	Screw, 3/8-16 x 1-1/4 in. Hex Head	
30	800073	1	Carriage Bolt, 3/8-16 x 1-1/4 in.	
31	306981	2	Flat Washer, 3/8	
32	120177	2	Lockwasher, 3/8	
33	306562	2	Nut, 3/8-16 Hex	
34	820899	2	Clamp, Hose	Used to protect hose from belt
35	4186780	1	Plate, Spacer	Located behind water pump pulley

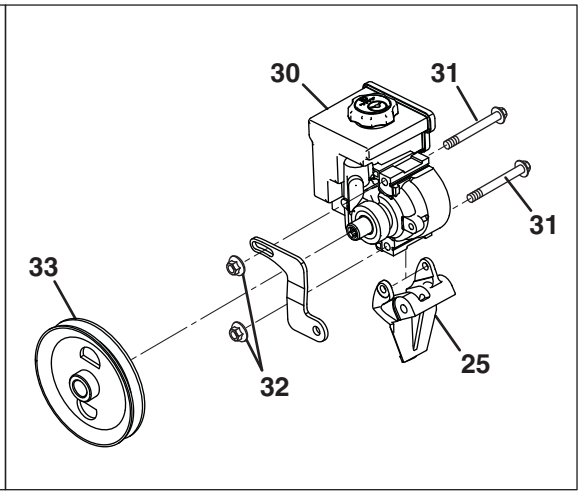
> Change from previous revision

27.1 Suzuki Gas Engine

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All





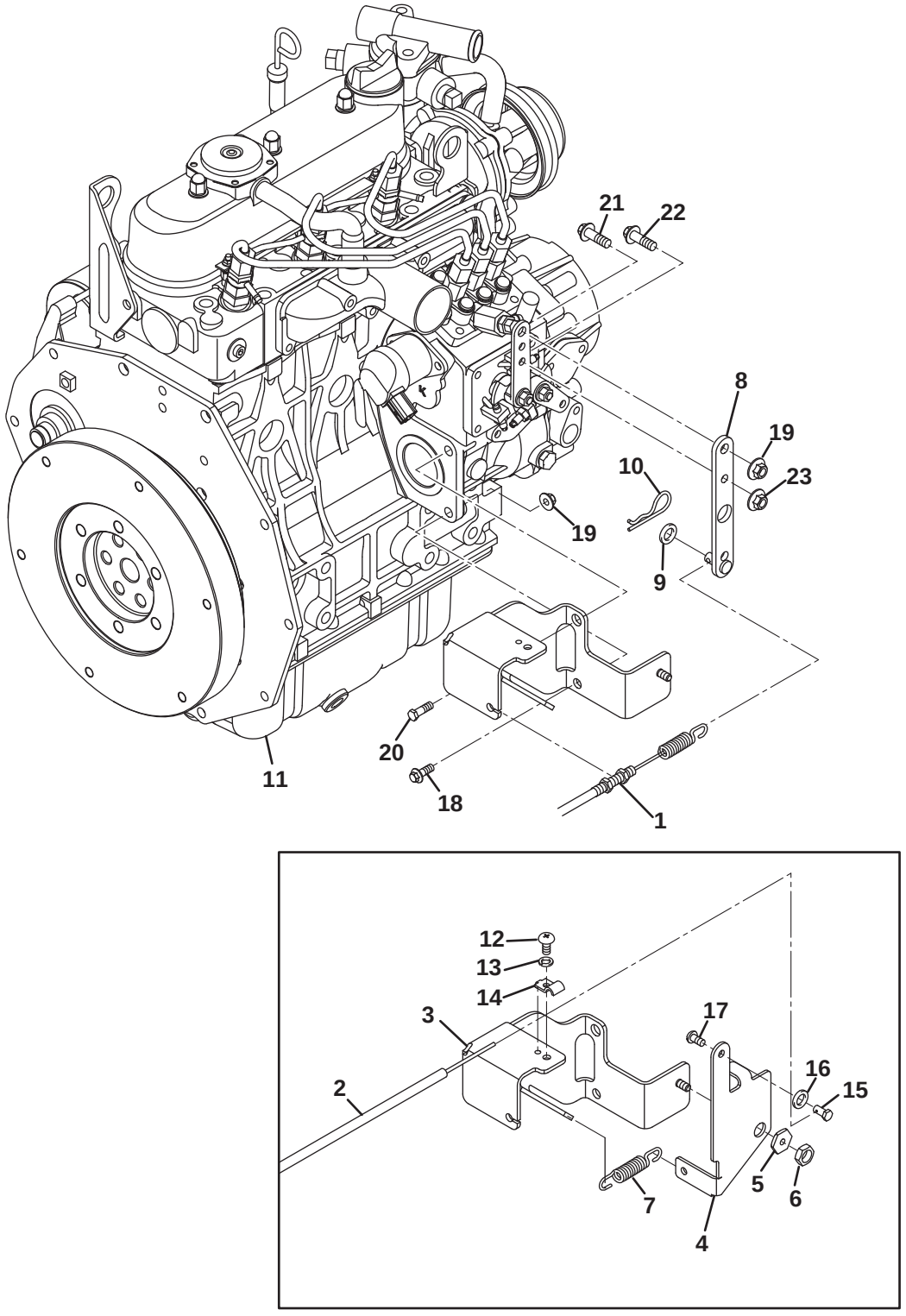


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	N/S	1	Suzuki K6 Engine	See Engine Parts Manual
	2701908	1	• Oil Filter	
	4140919	1	• Belt, Water Pump and Alternator	
2	4120017	1	• Right Side Engine Mount	
3	4140905	3	• Bolt, RIght Side Engine Mount	
4	4120018	1	• Left Side Engine Mount	
5	2701827	4	• Bolt, Left Side Engine Mount	
6	2702469	3	• Bolt	
7	830425	AR	Fuel Hose, 1/4 in.	25 Foot Roll, Cut to 24 Inches
8	4188387	1	Bracket, Governor	**See 34.1**
9	2702249	1	Key, Woodruff 1/8 x 1/2 in.	
10	4141425	1	Governor	**See 32.1**
11	306450	2	Screw, 5/16-18 x 3/4 in. Hex Head	
12	306325	2	Lockwasher, 5/16	
13	548155	2	Flat Washer, 5/16	
14	4139288	AR	Pulley, 4 Groove Micro-V 4.4 in. Dia.	Includes two set screws
15	887994	1	Pump, Hydraulic	**See 40.1**
16	13437G5	2	Screw, 3/8-16 x 1-1/2 in. Whizlock	
17	306981	2	Flat Washer, 3/8	
18	120177	2	Lockwasher, 3/8	
19	306562	2	Nut, 3/8-16 Hex	
20	4144332	1	Pulley, 2-3/4” Idler	
21	4144005	1	Pulley, 4 Groove Micro-V 4.06 in. Dia.	Used on 84069 Only
22	4139351	1	Belt, 52.8 in. Micro-V	Used on 84067 and 84068
22	4144006	1	Belt, 52.5 in. Micro-V	Used on 84069
23	312176	1	Screw, 1/2-13 x 1-3/4 in. Hex Head	
24	800602	1	Nut, 1/2-13 Nylon Insert	
25	4231362	1	Bracket, Power Steering Pump	
26	452378	1	Screw, M6-1 x 20 mm Hex Flange	
27	4231600	1	Bracket, Power Steering Adjuster	Mounts using lower alternator bolt
28	452396	1	Screw, M8-1.25 x 90 mm Hex Flange	
29	4149901	1	Pulley, Alternator	
30	4216305	1	Pump, Power Steering	**See 20.1**
31	452395	2	Screw, M8-1.25 x 80 mm Hex Flange	
32	450453	3	Nut, M8-1.25 Hex Flange	
33	4210205	1	Pulley, 5.80 in. Diameter	
34	4235370	1	Belt, 7/16 x 26-1/2 in. V	Alternator and Power Steering
35	4143072	1	Tensioner, Rotary	
36	4146490	1	Plate, Hose Clamp	
37	4234080	1	Bracket, Belt Cover	
38	4150138	1	Screw, 3/8-16 x 2-1/4 in. Hex Flange	

> Change from previous revision

28.1 Diesel Engine Speed Control

Serial No. 84063 All
Serial No. 84064 All

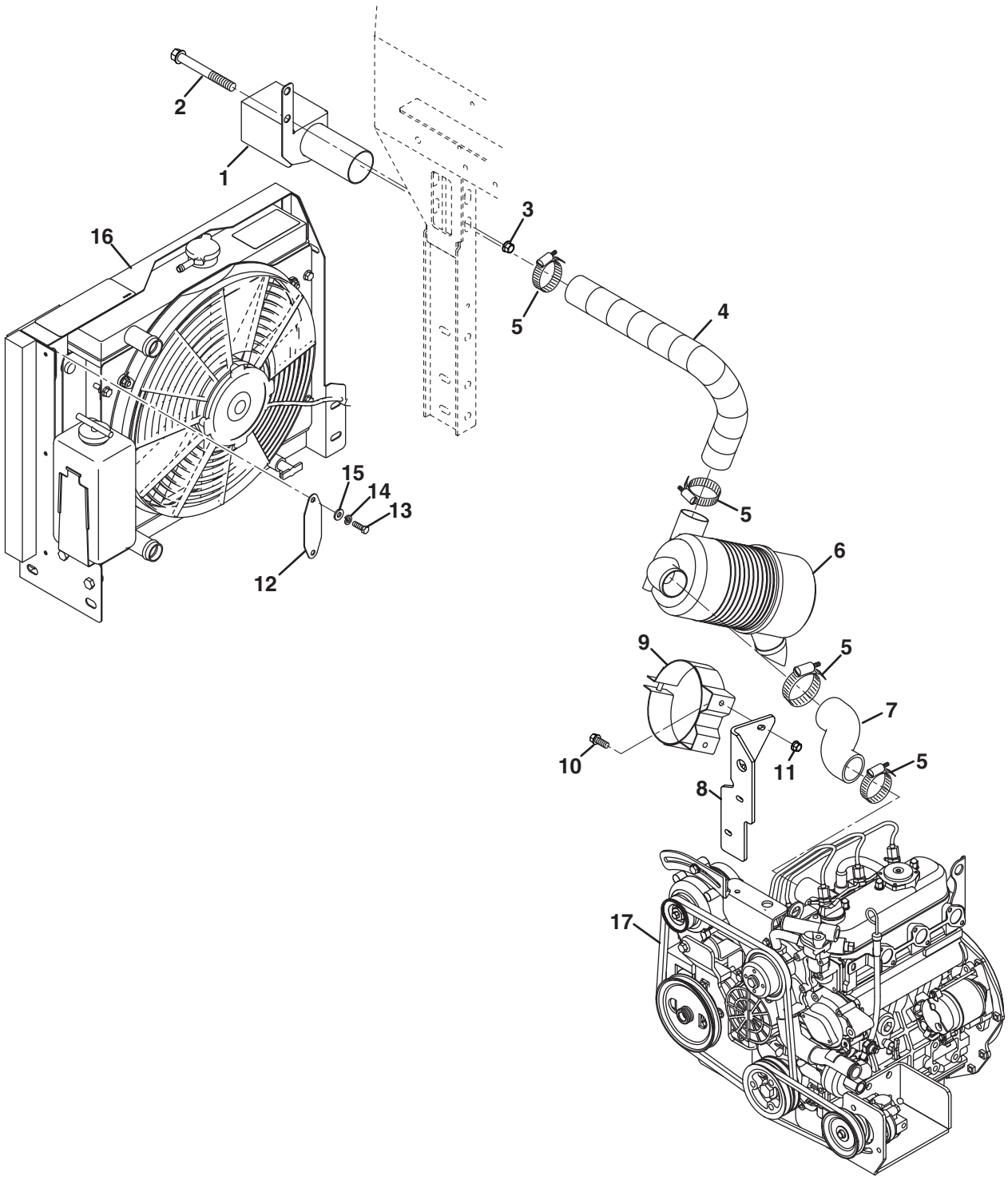


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2703683	1	Throttle Cable	See 5.1 for other end of cable
2	844130	1	Cable, Governor Control	See 5.1 for other end of cable
3	4174720	1	Bracket, Throttle	
4	4174662	1	Lever, Governor	
5	835271	1	Nut, 1/4-20 Lever Pivot	
6	130728	1	Nut, 1/4-20 Hex Jam	
7	840473	1	Spring, Governor Lever	
8	4175021	1	Lever, Throttle	
9	103867	1	Flat Washer, 5/16	
10	821164	1	Hair Pin	
11	REF	1	Kubota Diesel Engine	**See 26.1**
12	800271	1	Screw, #10-24 x 1/2 in. Pan Head	
13	120052	1	Lockwasher, #10	
14	111898	1	Clamp, Cable	
15	831888	1	Swivel	
16	831889	1	Washer, Swivel	
17	831890	1	Screw, Swivel Throttle Cable	
18	452390	1	Screw, M8-1.25 x 30 mm Flange	
19	450453	2	Nut, M8-1.25 Flange	
20	800547	1	Screw, M8-1.25 x 16 mm Hex Head	
21	452388	1	Screw, M8-1.25 x 20 mm Flange	
22	452738	1	Screw, M6-1 x 20 mm Flange	
23	450452	1	Nut, M6-1 Flange	

> Change from previous revision

29.1 Diesel Engine Air Filter

Serial No. 84063 All
Serial No. 84064 All

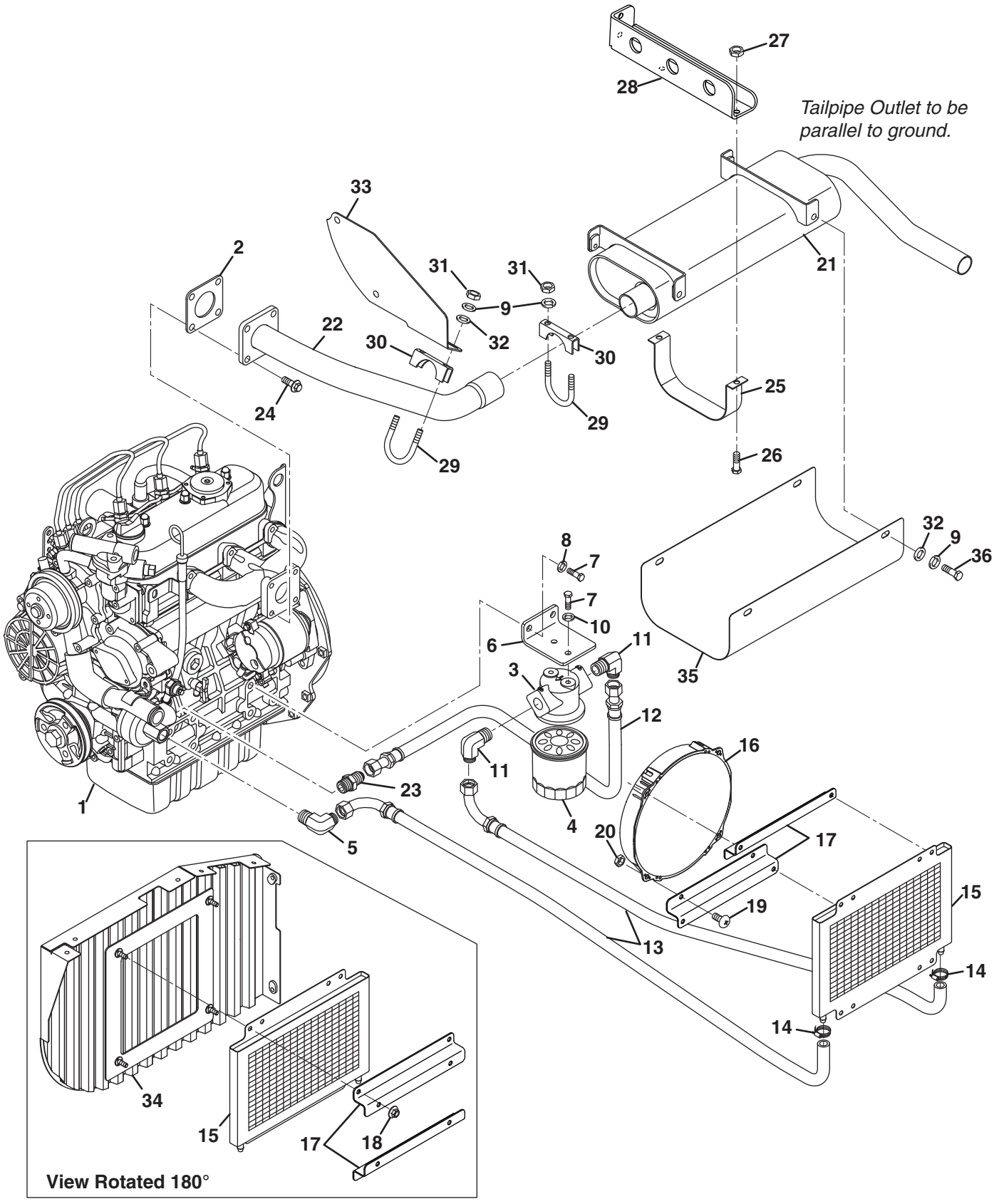


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	601585	1	Box, Air	
2	452405	2	Screw, M10-1.5 x 80 mm Hex Flange	
3	450454	2	Nut, M10-1.5 Hex Flange	
4	36092-G01	1	Hose, 2 in. x 16 in. High Temp Air	
5	11391G7	4	Clamp, Hose	
6	3001965	1	Air Filter	
	5000919	1	• Element, Air Filter	
	5000920	1	• Cover	
	5000914	1	• Vactuator Valve	
7	4174620	1	Hose, Intake	
8	4174285	1	Bracket, Air FIlter Mount	See 23.1 for Mounting
9	3001388	1	Bracket, Air FIlter	
10	400184	1	Screw, 5/16-18 x 3/4 in. Hex Head	
11	445795	1	Nut, 5/16-18 Spiralock Flange	
12	601595	1	Plate, Blockoff	
13	300646	2	Screw, 1/4-20 x 3/4 in. Hex Head	
14	306396	2	Lockwasher, 1/4	
15	308090	2	Flat Washer, 1/4	
16	REF	1	Radiator Assembly	See 21.1
17	REF	1	Diesel Engine Assembly	See 26.1 or 26.2

> Change from previous revision

30.1 Diesel Engine Exhaust and Remote Oil Filter

Serial No. 84063 All
Serial No. 84064 All

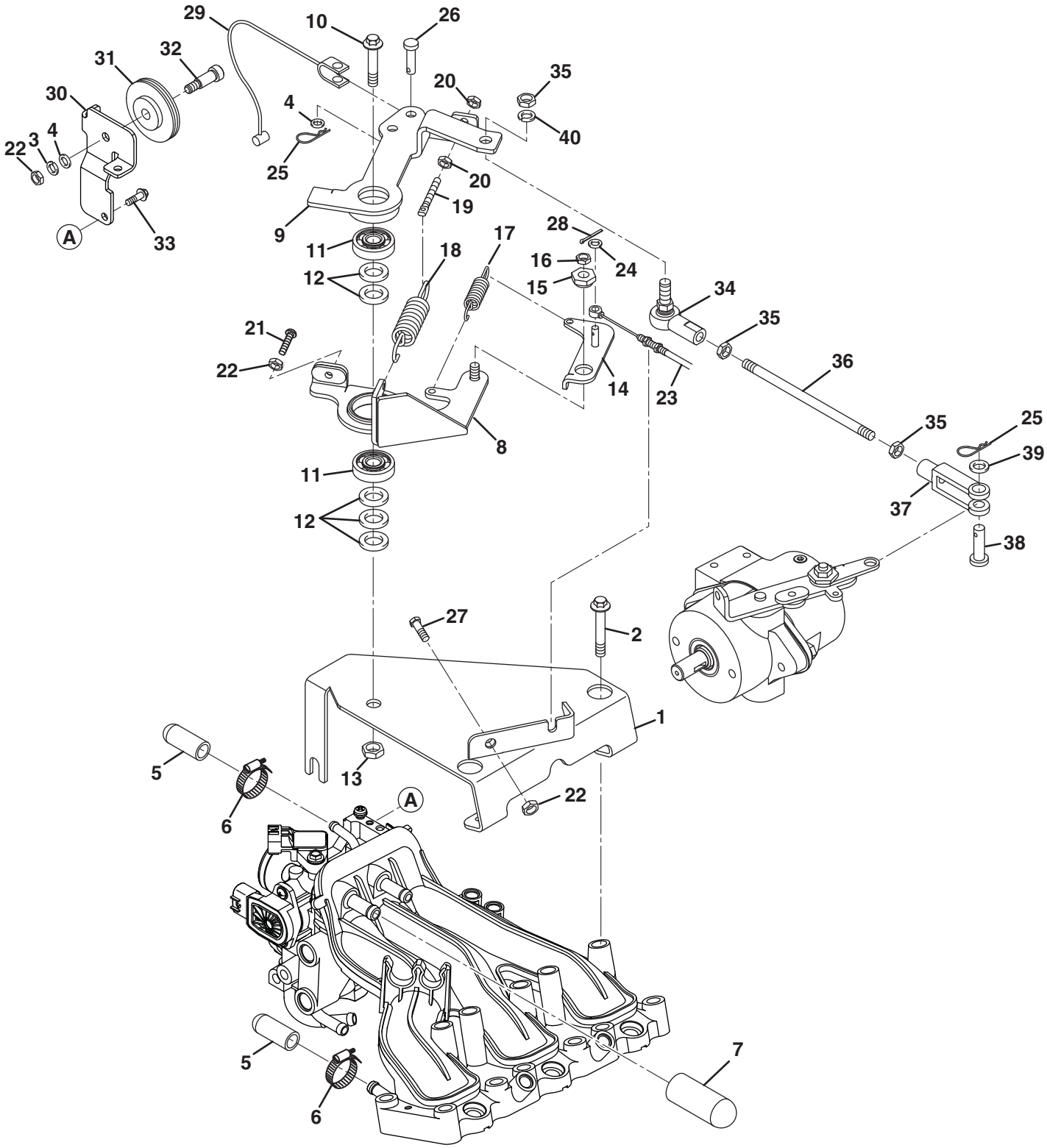


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Kubota Engine	See 26.1
2	553020	1	• Gasket, Exhaust	
3	4183634	1	• Head, Remote Filter	
4	4113986	1	• Engine Oil Filter	
5	4190701	1	Fitting, 90°	
6	4174290	1	Bracket, Remote FIlter	
7	800547	4	Screw, M10-1.25 x 20 mm Hex Head	
8	303269	2	Lockwasher, 7/16	
9	306325	8	Lockwasher, 5/16	
10	120177	2	Lockwasher, 3/8	
11	4175620	2	Fitting, 90°	
12	4175561	1	Hose, Remote Oil Filter	
13	4175562	2	Hose, Remote Oil Cooler	
14	48540-01	2	Clamp, Hose	
15	4176960	1	Remote Oil Cooler	
16	4177560	1	Fan, 7-1/2 in. Push	
17	4185240	2	Bracket, Fan Mount	
18	548910	4	Nut, 1/4-20 Hex Flange	
19	800017	4	Screw, 1/4-20 x 1 in. Pan Head	
20	443102	4	Nut, 1/4-20 Hex	
21	4179161	1	Muffler	
22	4174560	1	Tube, Exhaust Inlet	
23	4190700	1	Fitting, Straight	
24	452389	4	Screw, M8-1.25 x 25 mm Flange	
25	838295.8	1	Strap, Muffler Hanger	
26	450193	2	Screw, M8-1.25 x 30 mm Hex Head	
27	64237-05	2	Locknut, M8-1.25	
28	4191140	1	Bracket, Muffler	See 23.1
	841982	2	Clamp, 1-1/2 in. Exhaust	
29	N/S	1	• U-Bolt	
30	N/S	1	• Bracket	
31	N/S	2	• Nut, 5/16-18 Hex	
32	103867	6	Flat Washer, 5/16	
33	4174286	1	Cover, Starter Hole	See 23.1
34	4179842	1	Left Side Screen	See 14.1
35	4119867.8	1	Shield, Muffler	
36	306450	4	Screw, 5/16-18 x 3/4 in. Hex Head	
37	306325	8	Lockwasher, 5/16	

> Change from previous revision

31.1 Gas Engine Governor Linkage

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

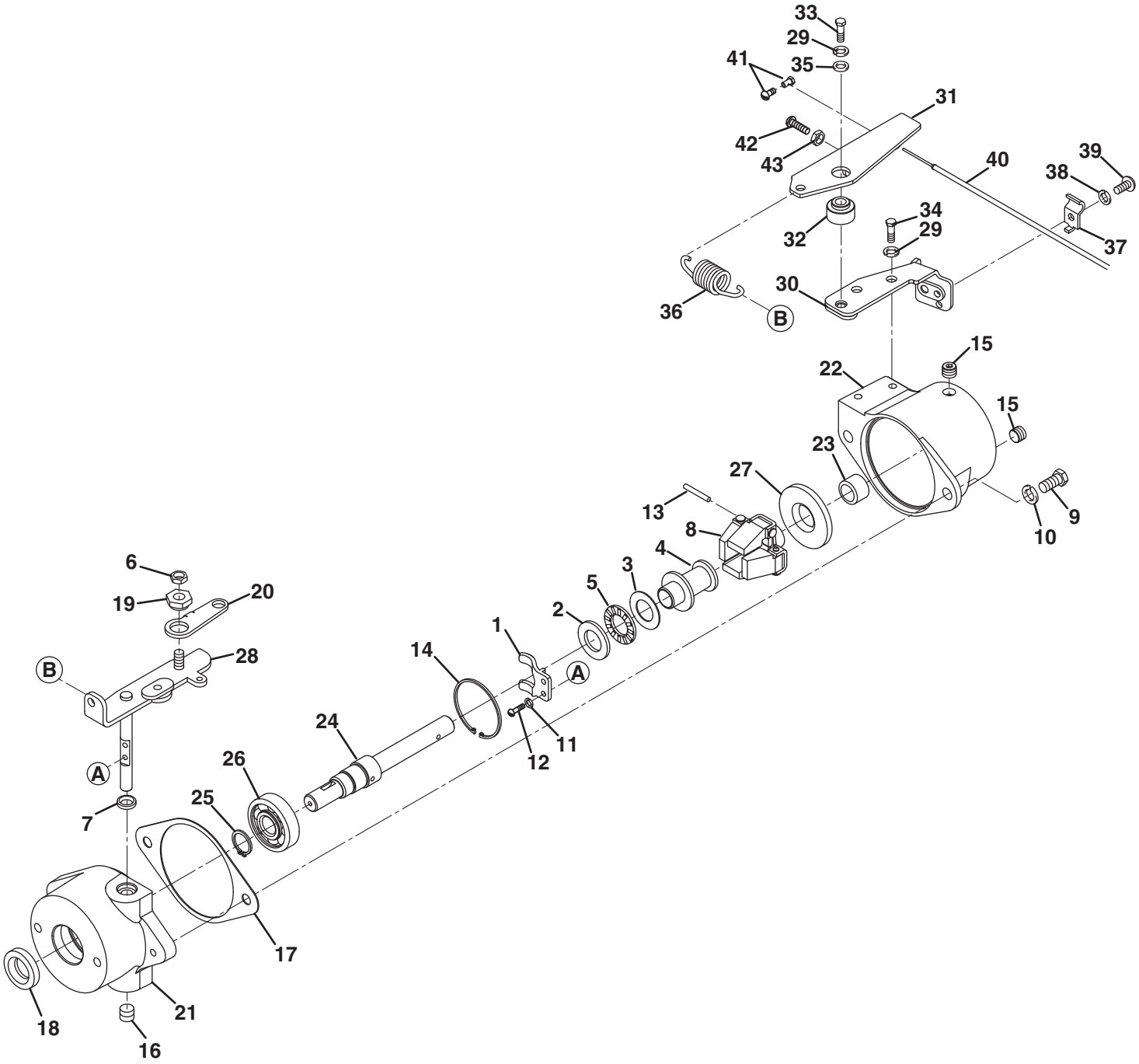


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4139208	1	Plate, Governor	
2	4141031	2	Bolt, Intake Manifold	Included with Engine
3	306396	1	Lockwasher, 1/4	
4	308090	1	Flat Washer, 1/4	
5	845224	2	Plug, Tube	
6	11391G4	2	Clamp, 1/4 in. to 5/8 in. Worm Drive	
7	4144145	1	Plug, 3/8 x 1 in. Tube	
8	2700540	1	Lever, Governor	
9	2700859	1	Lever, Governor Arm	
10	01116G01	1	Screw, M10-1.5 x 40 mm Hex Flange	
11	830140	2	Ball Bearing	
12	306981	5	Flat Washer, 3/8	
13	450454	1	Nut, M10-1.5 Hex Flange	
14	2701129	1	Arm, Throttle	
15	835271	1	Nut, Governor	
16	130728	3	Nut, 1/4-20 Hex Jam	
17	2700335	1	Spring, Governor	
18	2700334	1	Spring, Governor	
19	111893	1	Screw, #10-32 Special	
20	2702244	2	Nut, #10-32 Hex	
21	800024	1	Screw, 1/4-20 x 1-1/2 in. Truss Head	
22	306375	3	Nut, 1/4-20 Hex	
23	2703684	1	Throttle Cable	See 5.1
24	308089	1	Flat Washer, M6	
25	821164	2	Hair Pin, 1/4 x 1-1/8 in.	
26	818395	1	Clevis Pin, 1/4 x 1/2 in.	
27	302288	1	Screw, 1/4-20 x 1 in.	
28	306372	1	Cotter Pin, 3/32 x 1/2 in.	
29	4139209	1	Cable, Throttle	
30	4237525	1	Bracket, Throttle Cable	
31	843013	1	Pulley, Governor	
32	800927	1	Shoulder Bolt, 1/4-20 x 5/8 in.	
33	REF	2	Bolt	Part of Engine
34	831586	1	Ball Joint	
35	306320	3	Nut, 5/16-24 Hex	
36	4139210	1	Rod, Governor	
37	810722	1	Yoke	
38	806703	1	Clevis Pin, 5/16 x 31/32 in.	
39	103867	1	Flat Washer, 5/16	
40	306325	1	Lockwasher, 5/16 Special	

> Change from previous revision

32.1 Gas Engine Governor

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

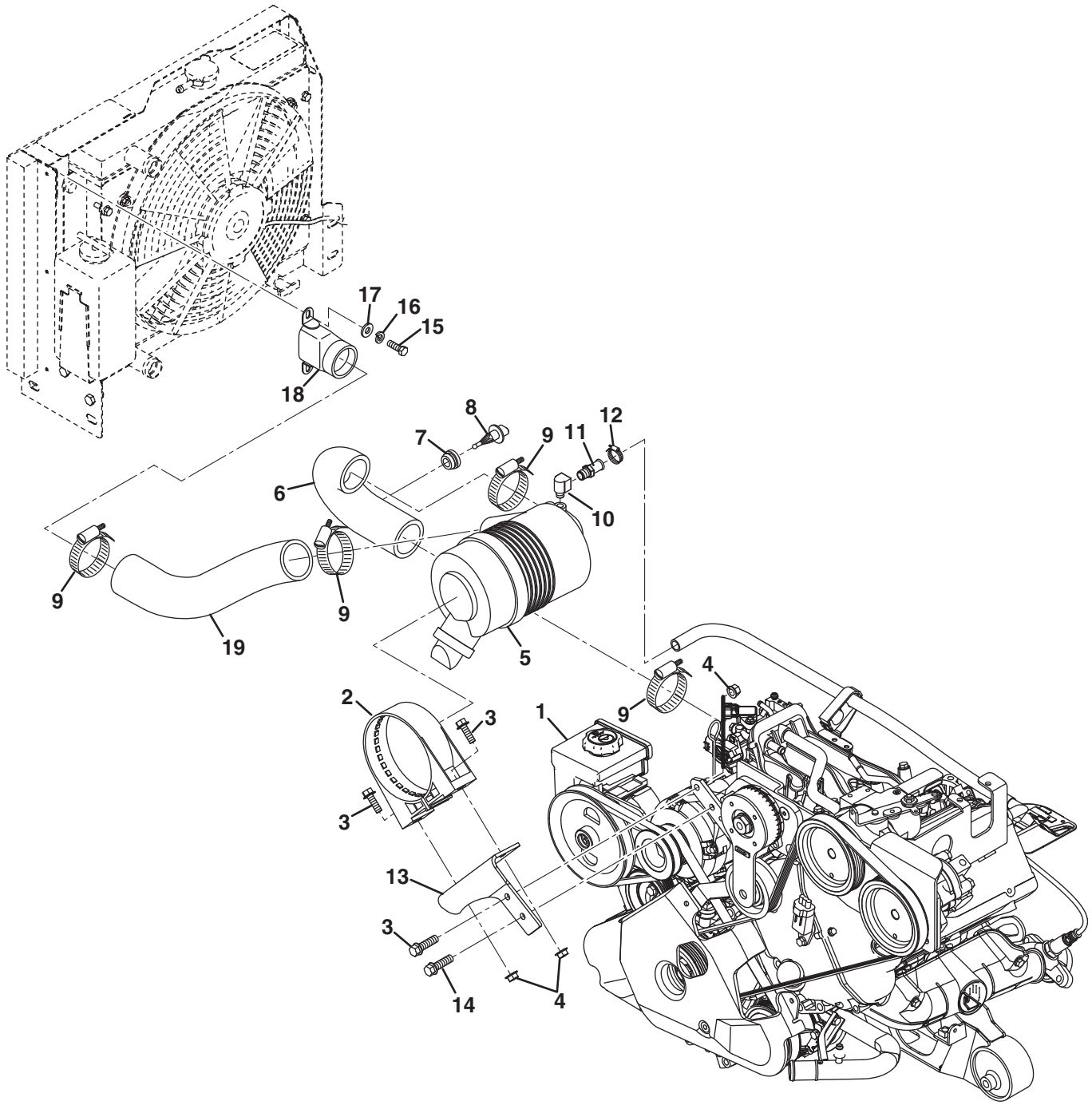


Item	Part No.	Qty.	Description	Serial Numbers/Notes
	4141425	1	Governor	
1	111812	1	• Yoke, Spool	
2	111814	1	• Washer, Thrust	
3	359864	1	• Washer, Thrust	
4	111817	1	• Spool, Governor	
5	112840	1	• Bearing, Thrust	
6	130728	1	• Nut, 1/4-20 Hex Jam	
7	111813	1	• Seal, Shaft	
8	160410	1	• Carrier & Weights	
9	302288	2	• Screw, 1/4-20 x 1 in. Hex Head	
10	306396	2	• Lockwasher, 1/4	
11	306506	2	• Lockwasher, #6	
12	306915	2	• Screw, #6-32 x 5/16 in. Machine	
13	603102	1	• Roll Pin, 1/8 x 3/4 in.	
14	548325	1	• Ring, Retaining	
15	800227	2	• Plug, 1/8 NPT	
16	800558	1	• Set Screw, 3/8-16 x 5/16 in.	
17	833056	1	• Gasket, Governor	
18	4189960	1	• Seal, Oil	
19	835271	1	• Nut, Governor Arm	
20	843537	1	• Bracket, Governor Knee	
21	4114867	1	• Head, Governor	
22	894471	1	• Reservior, Governor	
23	833103	1	• • Bearing, Needle	
24	4150957	1	• Shaft, Governor Complete	
25	833104	1	• • Ring, Retaining	
26	833345	1	• • Bearing, Ball	
27	4115584	1	• Ring, Support	
28	2700525	1	• Lever, Governor Control	
29	306396	3	Lockwasher, 1/4	
30	894435	1	Bracket, Throttle	
31	894434	1	Arm	
32	843866	1	Bushing, Governor	
33	302288	1	Screw, 1/4-20 x 1 in. Hex Head	
34	00414G5	2	Screw, Hex Head	
35	308090	1	Flat Washer, 1/4	
36	833101	1	Spring, Extension	
37	111898	2	Clamp, Cable	
38	120052	1	Lockwasher, #6	
39	800271	1	Screw, #10-24 x 1/2 in. Pan Head	
40	844130	1	Governor Cable	See 5.1
41	817104	1	Stop, Wire	
42	800024	1	Screw, 1/4-20 x 1-1/2 in.	
43	306375	1	Nut, 1/4-20 Hex	

> Change from previous revision

33.1 Gas Engine Air Filter

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

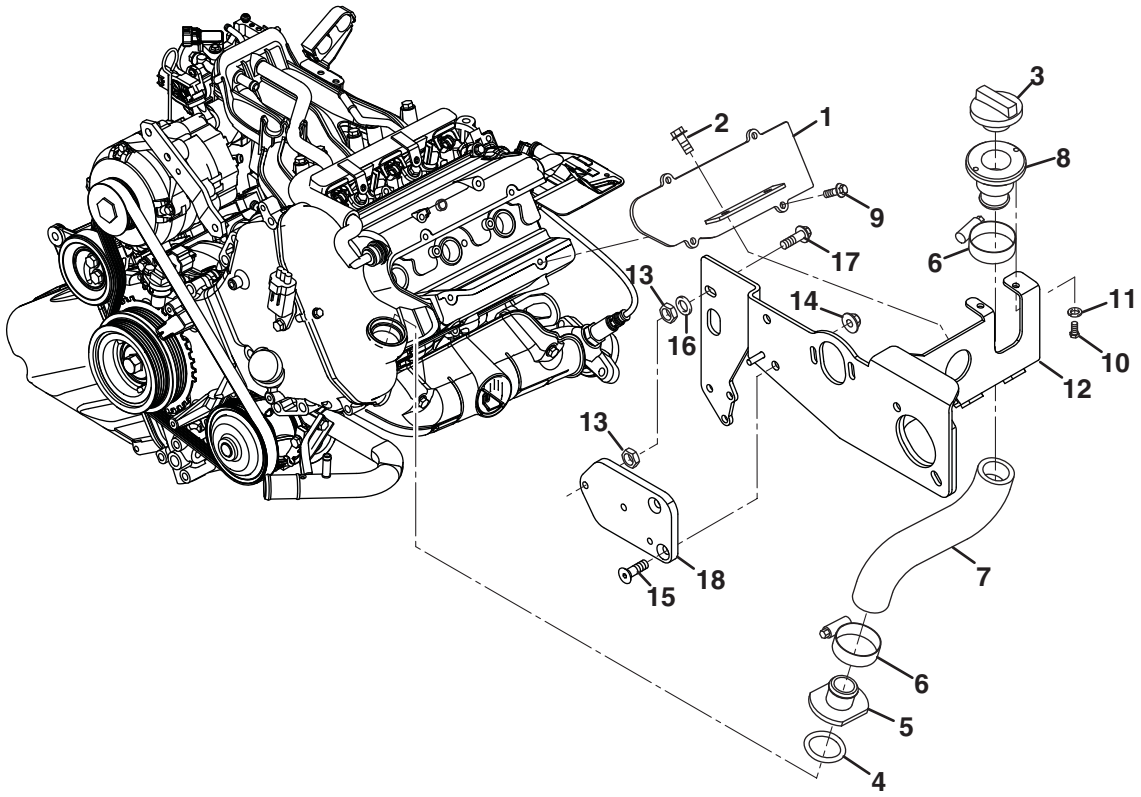


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Engine Assembly	See 27.1
2	842915	1	Bracket, Air Filter	
3	452389	3	Screw, M8-1.25 x 25 mm Hex Flange	
4	450453	3	Nut, M8-1.25 Hex Flange	
5	4118027	1	Air Filter	
	5000913	1	• Element, AIr Filter	
	5000914	1	• Vactuator Valve	
6	4139211	1	Hose, Engine Air Intake	
7	4140617	1	Grommet	
8	4140618	1	Sensor, Air Temp	
9	11391G7	4	Clamp, 2-3/4 in. Worm Drive	
10	4118423	1	Elbow, 1/4 NPT Street	
11	4118422	1	Hose Fitting, 1/4 NPT Brass	
12	2702484	1	Clamp	
13	4231620	1	Bracket, Air Cleaner	
14	2702489	1	Bolt	Included with Engine
15	300646	2	Screw, 1/4-20 x 3/4” Hex Head	
16	306396	2	Lockwasher, 1/4	
17	308090	2	Flat Washer, 1/4	
18	888549	1	Connector, Hose	
19	4235740	1	Hose, Air Cleaner Intake	

> Change from previous revision

34.1 Gas Engine Remote Oil Fill

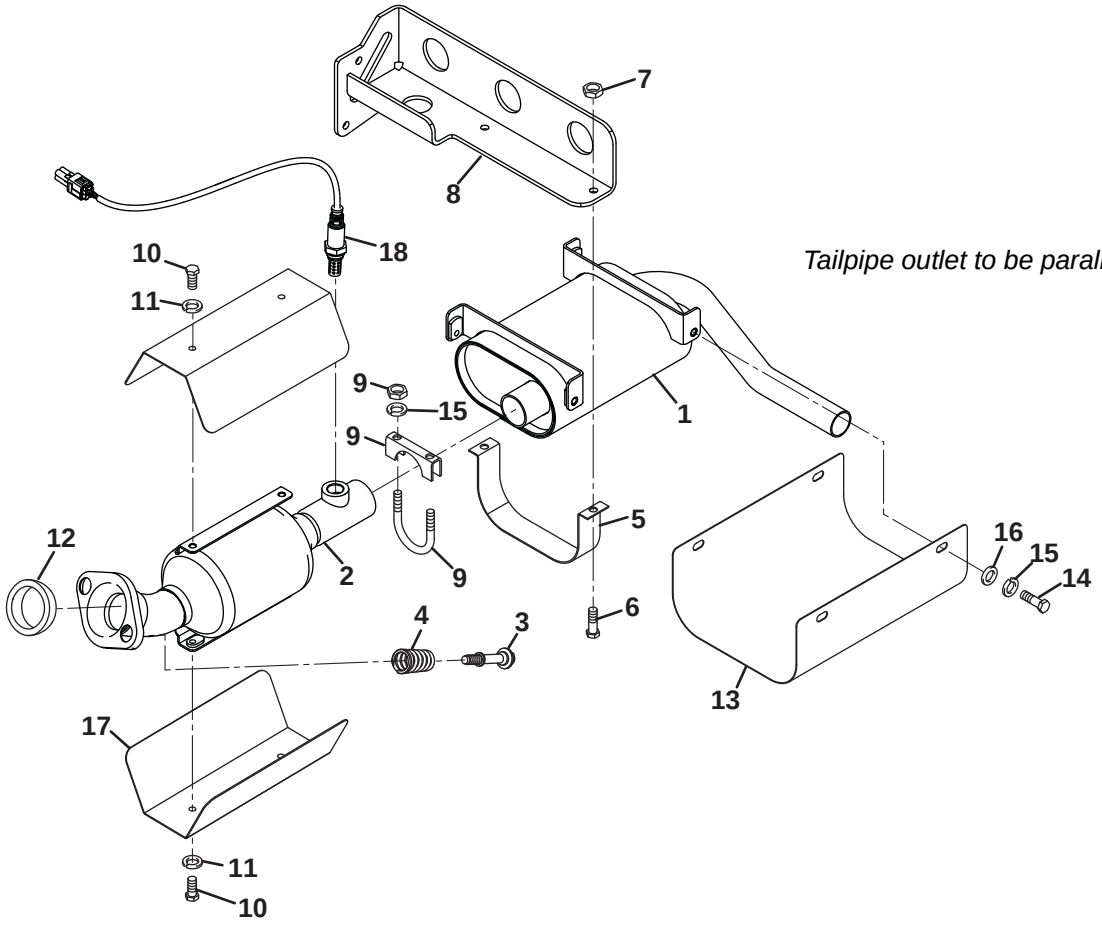
Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4188041	1	Bracket, Valve Cover	
2	548971	2	Screw, 5/16-18 x 5/8” Hex Flange	
3	4148202	1	Cap, Oil FIll	Included with Engine
4	843420	1	O-Ring	
5	843399	1	Adapter, Valve Cover	
6	836206	2	Clamp, 1-7/8” Worm Drive	
7	4139271	1	Hose, Remote Oil Fill	
8	2701640	1	Adapter, Oil Cap	
9	4117892	4	Screw, M6-1 x 16 mm Hex Flange	
10	800425	2	Screw, M6-1 x 12 mm Hex Head	
11	306396	2	Lockwasher, 1/4	
12	4188387	1	Bracket, Governor	**See 27.1**
13	443810	2	• Nut, 3/8-16 Hex Jam	
14	548804	2	• Nut, 3/8-16 Whizlock	
15	548041	2	• Screw, 3/8-16 x 1” Flat Socket Head	
16	306981	1	• Flat Washer, 3/8	
17	800711	1	• Screw, 3/8-16 x 1-3/4” Hex Flange	
18	N/S	1	• Plate, Tensioner	

> Change from previous revision

35.1 Gas Engine Exhaust



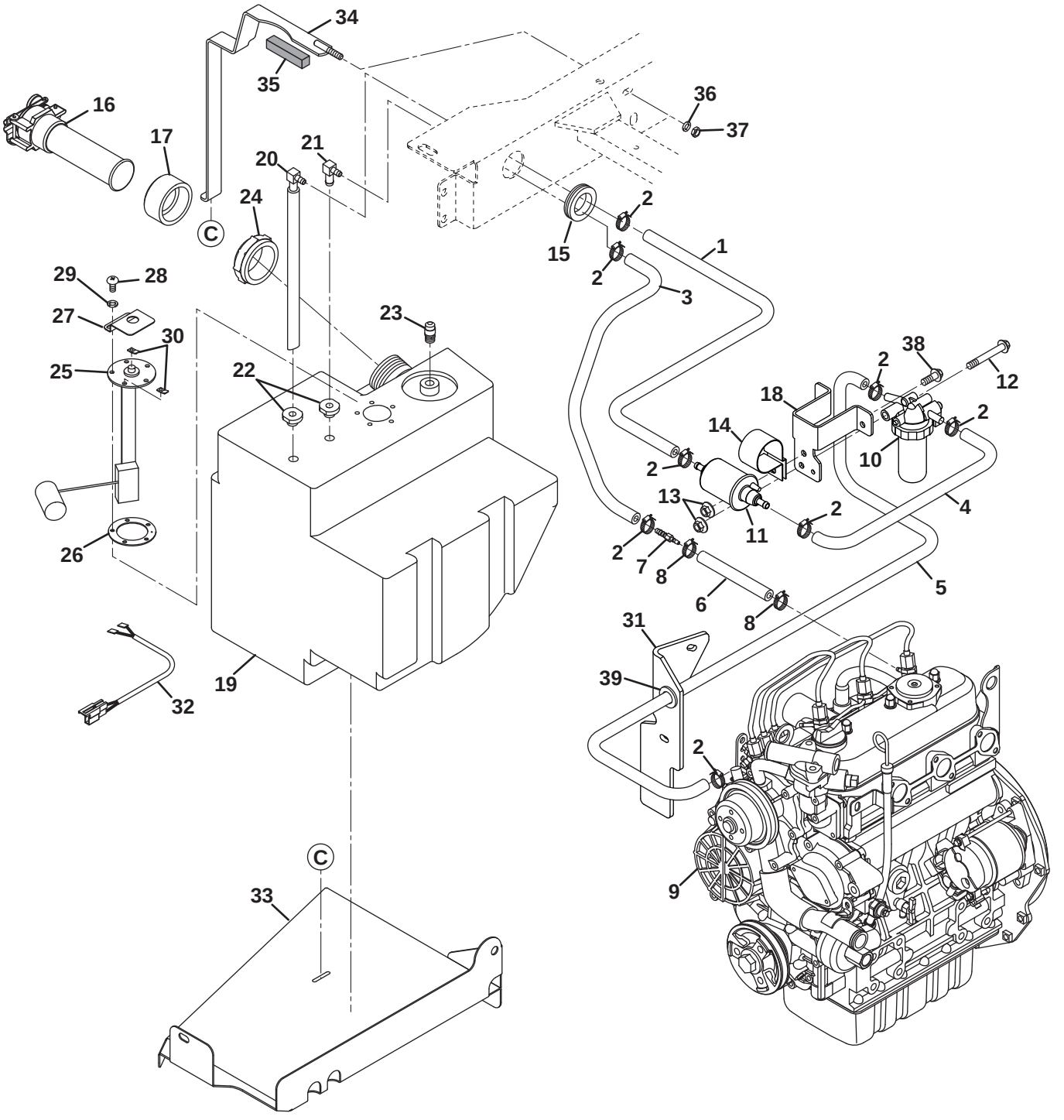
Tailpipe outlet to be parallel to ground.

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4233161	1	Muffler	
2	4232042	1	Catalytic Converter	
3	2702502	2	Bolt, Muffler Flange	
4	2702501	2	Spring, Muffler Flange	
5	838295.8	1	Strap, Muffler Hanger	
6	450193	2	Screw, M8-1.25 x 30 mm Hex Head	
7	64237-05	2	Locknut, M8-1.25	
8	4240882	1	Bracket, Muffler	Attaches to Transmission Case
9	841982	1	Clamp, 1-1/2 in. Exhaust	
10	306419	4	Screw, 1/4-20 x 1/2 in. Hex Head	
11	306396	4	Lockwasher, 1/4	
12	2702500	1	Ring, Muffler Flange	
13	4233160	1	Shield, Muffler	
14	306555	4	Screw, 5/16-18 x 5/8 in. Hex Head	
15	306325	6	Lockwasher, 5/16	
16	103867	4	Flat Washer, 5/16	
17	4144336	2	Shield, Catalytic Converter	
18	4235966	1	O2 Sensor	Included with Engine

> Change from previous revision

36.1 Diesel Fuel System

Serial No. 84063 All
Serial No. 84064 All

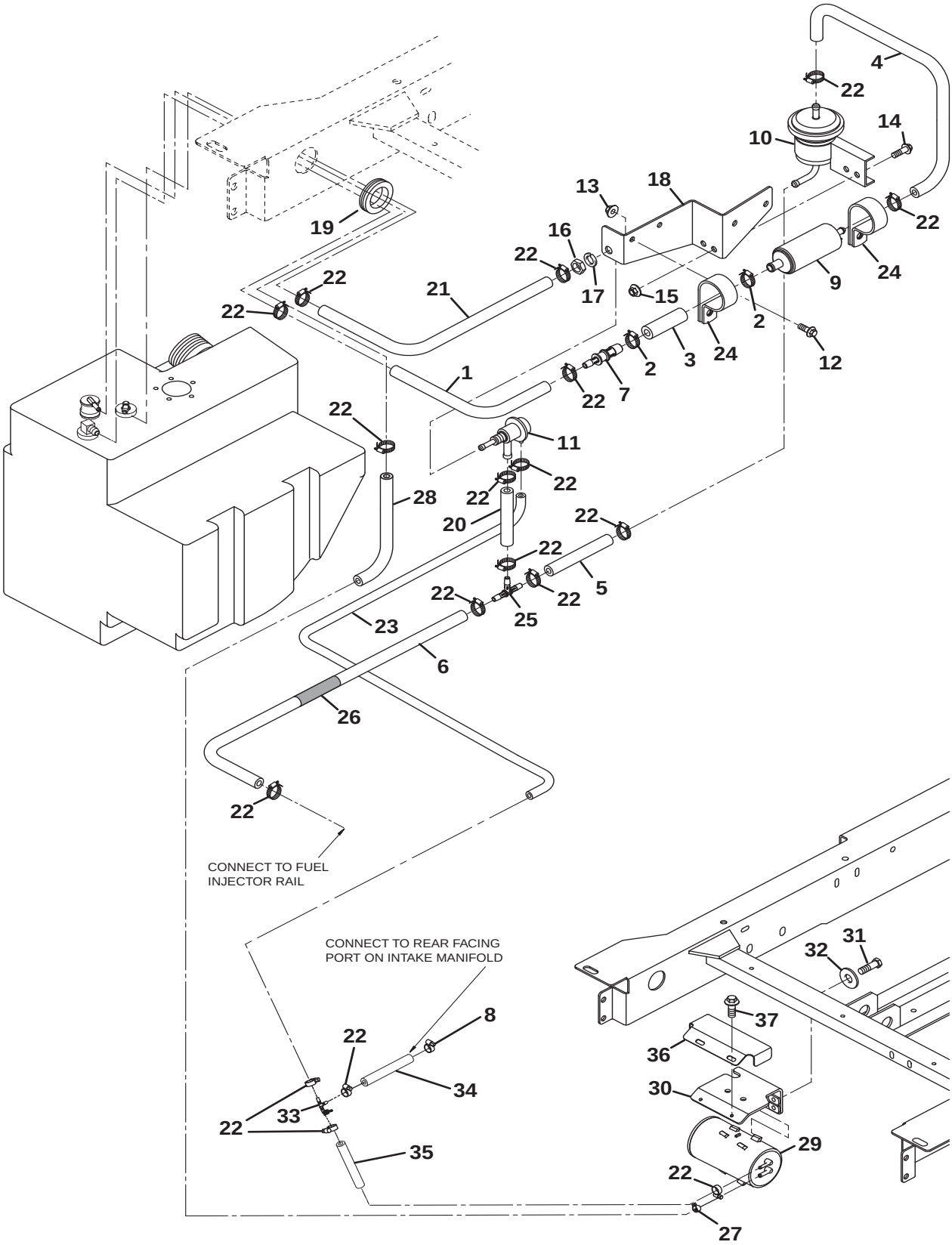


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	826590	1	Hose, Fuel Tank to Fuel Pump 5/16 in.	25 Foot Roll, Cut to 10 in.
2	4113022	8	Clamp, Hose	
3	826590	1	Hose, Fuel Return	25 Foot Roll, Cut to 21-1/2 in.
4	826590	1	Hose, Pump to Fuel Filter 5/16 in.	25 Foot Roll, Cut to 7 in.
5	826590	1	Hose, Fuel Filter to Engine 5/16 in.	25 Foot Roll, Cut to 19-1/2 in.
6	831039	1	Hose, Engine Fuel Return 3/16 in.	25 Foot Roll, Cut to 2-3/4 in.
7	4139967	1	Connector, 5/16 to 3/16 in. Hose	
8	825264	2	Clamp, Hose	
9	REF	1	Engine	
10	550553	1	• Fuel Filter	
	550489	1	• • Element, Fuel Filter	
11	894638	1	Pump, Electric Fuel	
12	452394	1	Screw, M8-1.25 x 70 mm Flange	
13	450453	2	Nut, M8-1.25 Flange	
14	838154	1	Bracket, Fuel Pump Mounting	
15	829997	1	Grommet	
16	834691	1	Cap, Protectoseal	Optional Accessory
17	841853	1	Coupler,Gas Cap	Optional Accessory
18	4185540	1	Bracket, Fuel System	See 15.1
19	841969	1	Fuel Tank	
20	843726	1	• Tube, Fuel Pick Up	
21	843727	1	• Elbow, 90° Fuel	
22	361117	2	• Grommet, Fuel Tank	
23	836852	1	• Breather	
24	4179802	1	Cap, Diesel Fuel	
25	843298	1	Sender, Fuel Level	
26	829954	1	Gasket, Fuel Tank	
27	833953	1	Cover, Fuel Sender	
28	800021	5	Screw, #10-32 x 1/2 in. Pan Head	
29	120052	5	Lockwasher, #10	
30	829787	2	Terminal, 1/4 in. Male	
31	4174285	1	Bracket, Air Filter Mount	See 23.1
32	894201	1	Harness, Fuel Sender	
33	4117153.7	1	Support, Tank	See 14.1
34	4180601	1	Strap, Tank	
35	834005	1	Seal, Foam	
36	103867	1	Flat Washer, 5/16	
37	800221	1	Locknut, 5/16-18 Center	
38	452388	1	Screw, M8-1.25 x 20 mm Flange	
39	809231	1	Grommet, Split	

> Change from previous revision

37.1 Gas Fuel System

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

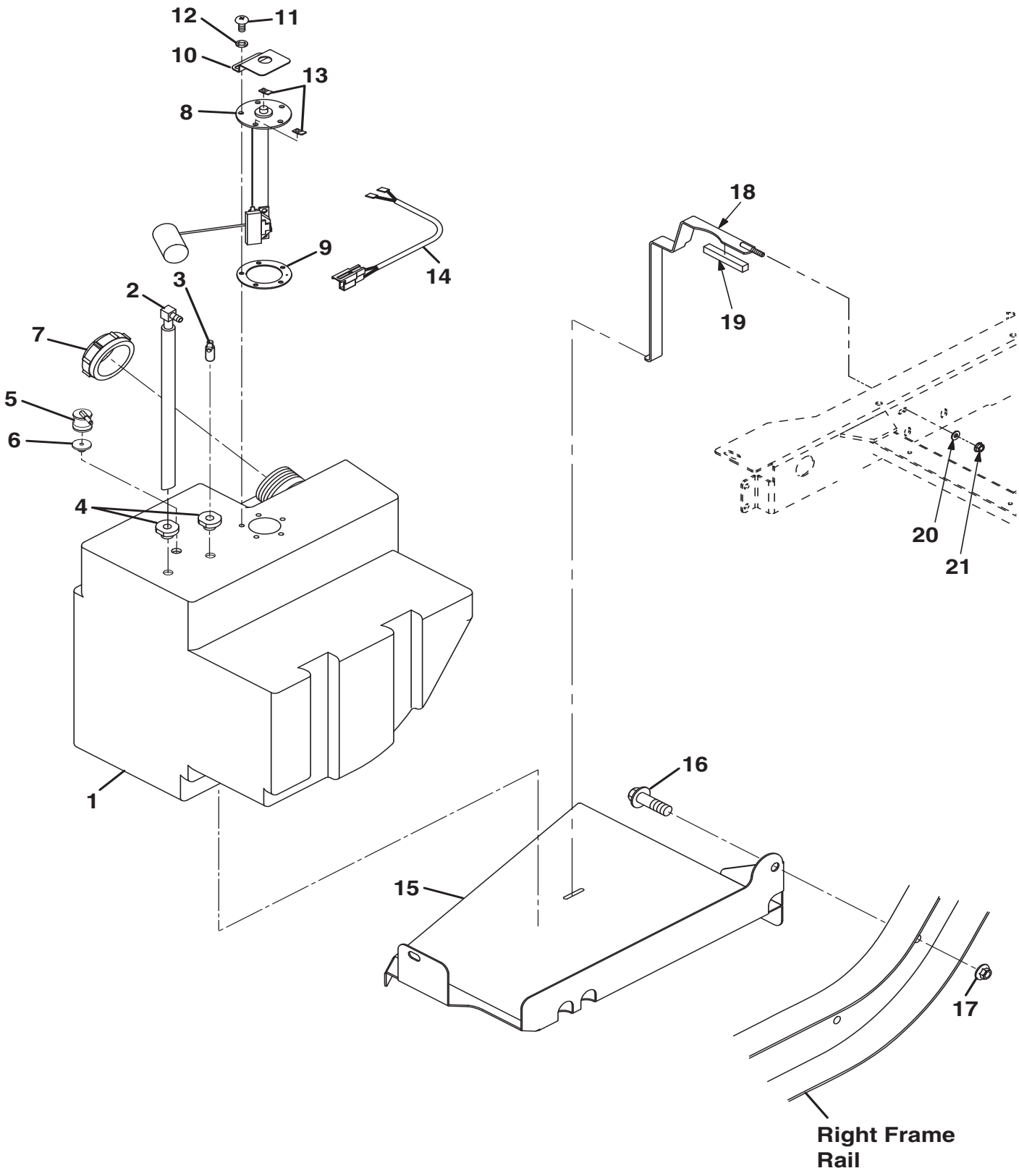


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4218621	1	Hose, Fuel Tank to Adapter 5/16 in.	6 Ft. Length, Cut to 14 in.
2	830930	2	Clamp, Hose	
3	4218622	1	Hose, Adapter to Pump 7/16 in.	6 In. Length, Cut to 3 in.
4	4218621	1	Hose, Pump to Fuel Filter 5/16 in.	6 Ft. Length, Cut to 9 in.
5	4218621	1	Hose, Fuel Filter to Tee 1/4 in.	6 Ft. Length, Cut to 4-1/4 in.
6	4218621	1	Hose, Tee to Engine 1/4 in.	6 Ft. Length, Cut to 29 in.
7	4113019	1	Adapter, 5/16 to 7/16 in. Hose	
8	4223561	1	Clamp, Hose Clutch Type 3/8 O.D.	
9	2701897	1	Pump, Electric Fuel	
10	2701898	1	Fuel Filter	
11	2700177	1	Regulator, Fuel	
12	452378	2	Screw, M6-1 x 20 mm Hex Flange	
13	450452	2	Nut, M6-1 Hex Flange	
14	800930	2	Screw, M8-1.25 x 16 mm Hex Flange	
15	450453	2	Nut, M8-1.25 Hex Flange	
16	800875	1	Nut, M12-1.25 Hex	
17	309067	1	Lockwasher, 1/2 in. External Tooth	
18	2701693.7	1	Bracket, Fuel Pump	See 15.1
19	829997	1	Grommet	
20	4218621	2	Hose, Adapter to Regulator 1/4	6 Ft. Length, Cut to 2 in.
21	4218620	1	Hose, Tank Return to Adapter	5 Ft. Length, Cut to 20 in.
22	825624	15	Clamp, Hose	
23	831039	1	Hose, Regulator to Tee	25 Ft. Length, Cut to 2 in.
24	2700166	1	Clamp, Filter	
25	4113020	1	Adapter, 1/4 in. Tee	
26	4245130	1	Flex Guard	30 In. Length, Cut to 5 in.
27	18292-G1	1	Clamp, Tubing	
28	4218620	1	Hose, Rollover Valve to Canister	5 Ft. Length, Cut to 17-1/2 in.
29	4170802	1	Canister, Carbon	
30	4172648	1	Bracket, Canister	
31	400188	2	Screw, 5/16 - 18 x 1 in. Hex HD	
32	452006	2	Washer, Flat	
33	4168143	1	Adapter, 5/32 in. Tee	
34	831039	1	Hose, Tee to Engine Intake Manifold	25 Ft. Length, Cut to 20 in.
35	831039	1	Hose, Tee to Carbon Canister	25 Ft. Length, Cut to 17-1/4 in.
36	4180501	1	Clamp, Canister	
37	452692	2	Screw, M6-1 x 12mm Taptite	

> Change from previous revision

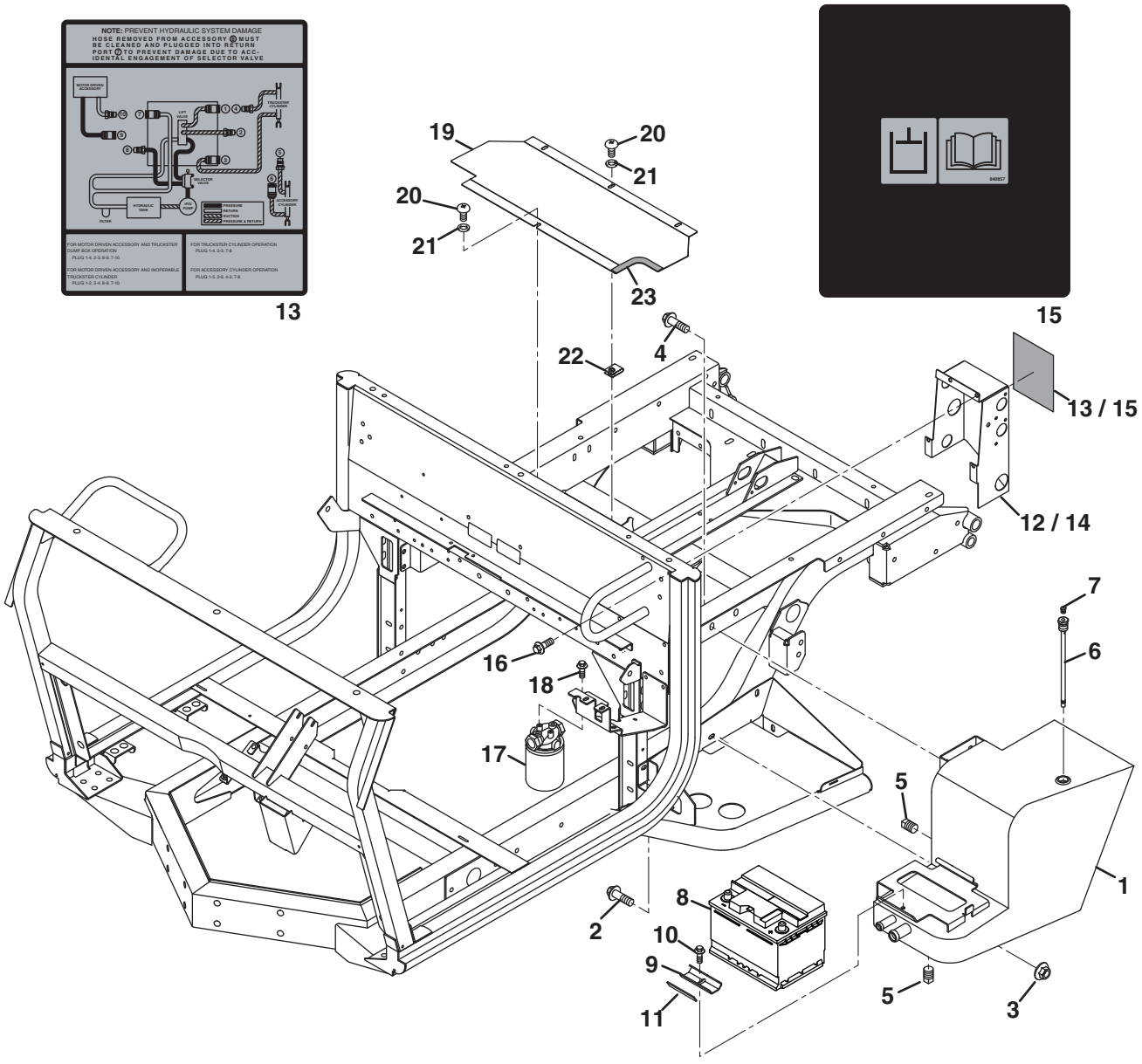
38.1 Gas Fuel System

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4166842	1	Fuel Tank AY	
2	843726	1	• Tube, Fuel Pick Up	
3	4166841	1	• Elbow, 90 1/4	
4	361117	2	• Bushing	
5	4170840	1	• Rollover Valve	
6	4168131	1	• Grommet, Fuel Tank	
7	4166840	1	Cap, Unvented Fuel Ratchet	
8	843298	1	Sender, FuelTank	
9	829954	1	Gasket, Fuel Tank	
10	833953	1	Cover, Fuel Sender	
11	800021	5	Screw, #10-32 x 1/2 in. Pan Head	
12	120052	5	Flat Washer	
13	829787	2	Terminal, Male	
14	894201	1	Harness, Fuel Sender	
15	4117153.7	1	Support, Fuel Tank	
16	452399	1	Screw, 5/16-18 x 3/4 in. Truss	
17	450454	3	Nut, M10-1.5 Hex Flange	
18	4180601	1	Strap Assembly, Fuel Tank	
19	834005	1	Seal, Foam	
20	103867	1	Washer, Flat	
21	800221	1	Nut, Hex Crownlock 5/16 - 24	

> Change from previous revision

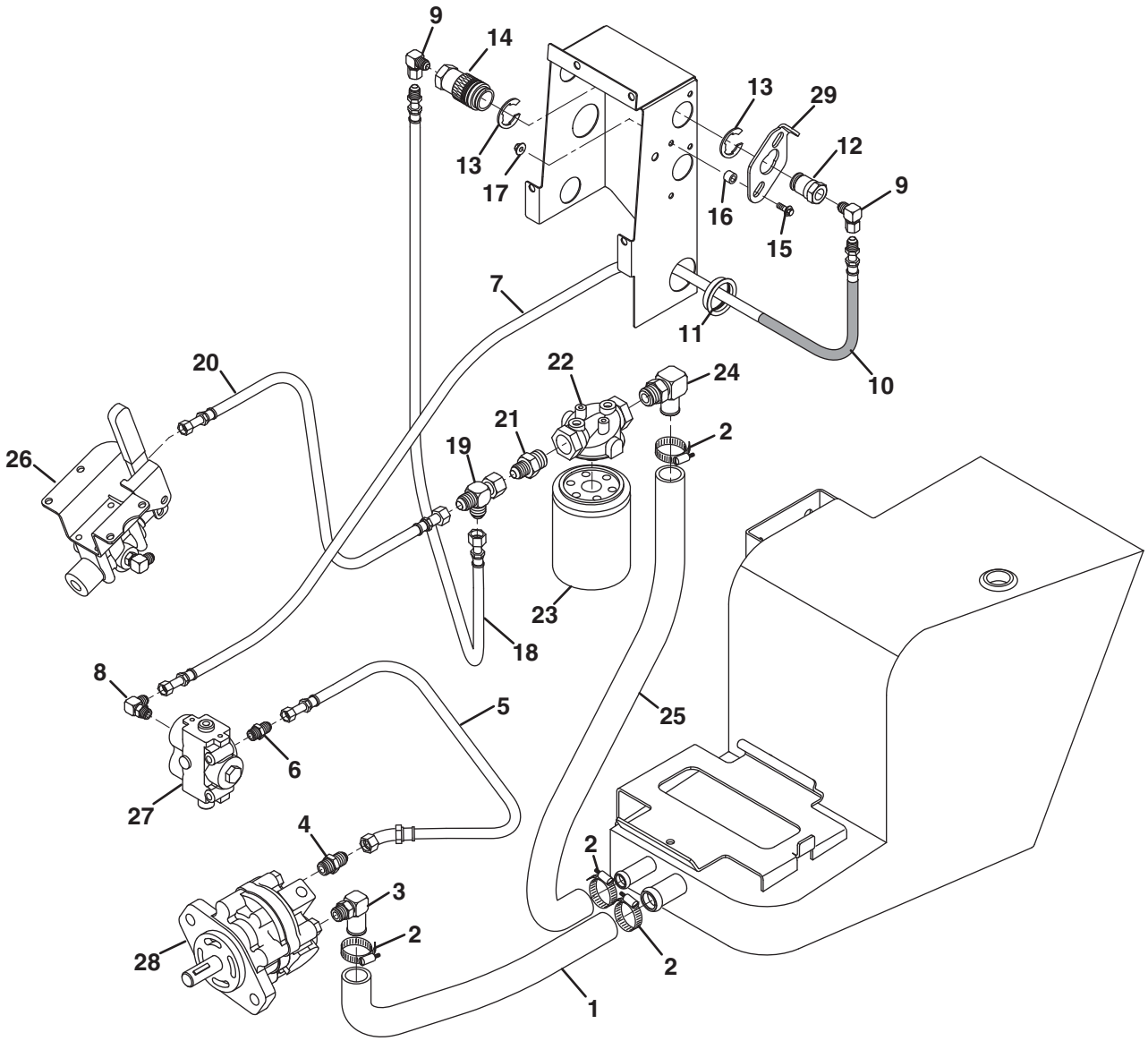

NOTE: PREVENT HYDRAULIC SYSTEM DAMAGE
HOSE REMOVED FROM ACCESSORY ⓟ MUST BE CLEANED AND PLUGGED INTO RETURN PORT Ⓣ TO PREVENT DAMAGE DUE TO ACCIDENTAL ENGAGEMENT OF SELECTOR VALVE
13
15
19
20
21
20
21
23
4
22
13 / 15
12 / 14
7
6
16
18
17
5
1
8
2
10
9
11
5
3

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	894675G01	1	Tank, Hydraulic	
2	452388	2	Screw, M8-1.25 x 20 mm Flange	
3	450453	2	Nut, M8-1.25 Hex Flange	
4	452399	2	Screw, M10-1.5 x 25 mm Flange	
5	800113	2	Plug, 1/2 NPT	
6	893539	1	Dipstick, Hydraulic Tank	
7	827486	1	Valve, Pressure Relief	
8	N/S	1	Battery, 12 Volt	
9	844601	1	Bracket, Battery Clamp	
10	452389	1	Screw, M8-1.25 x 25 mm Flange	
11	844729	AR	Spacer, Battery Clamp	Add as required to secure battery
12	2700800	1	Hydraulic Cover	Used on all, except 84064
13	837270	1	• Decal, Hydraulic Connections	
14	2700801	1	Hydraulic Cover, EC	Used on 84064 Only
15	840857	1	• Decal, Hydraulic Connections	
16	800930	4	Screw, M8-1.25 x 16 mm Flange	
17	REF	1	Hydraulic Filter	
18	548827	2	Screw, 1/4-20 x 1/2 in. Hex Flange	
19	2701107.7	1	Panel, Access	Diesel Vehicles
19	841805	1	Panel, Access	Gas Vehicles
20	300646	4	Screw, 1/4-20 x 3/4 in. Truss	
21	308090	4	Flat Washer, 1/4	
22	800279	4	Nut, 1/4-20 Speed	
23	821893	1	Trim, Push On	

> Change from previous revision

40.1 Hydraulic Pump and Filter

Serial No. All

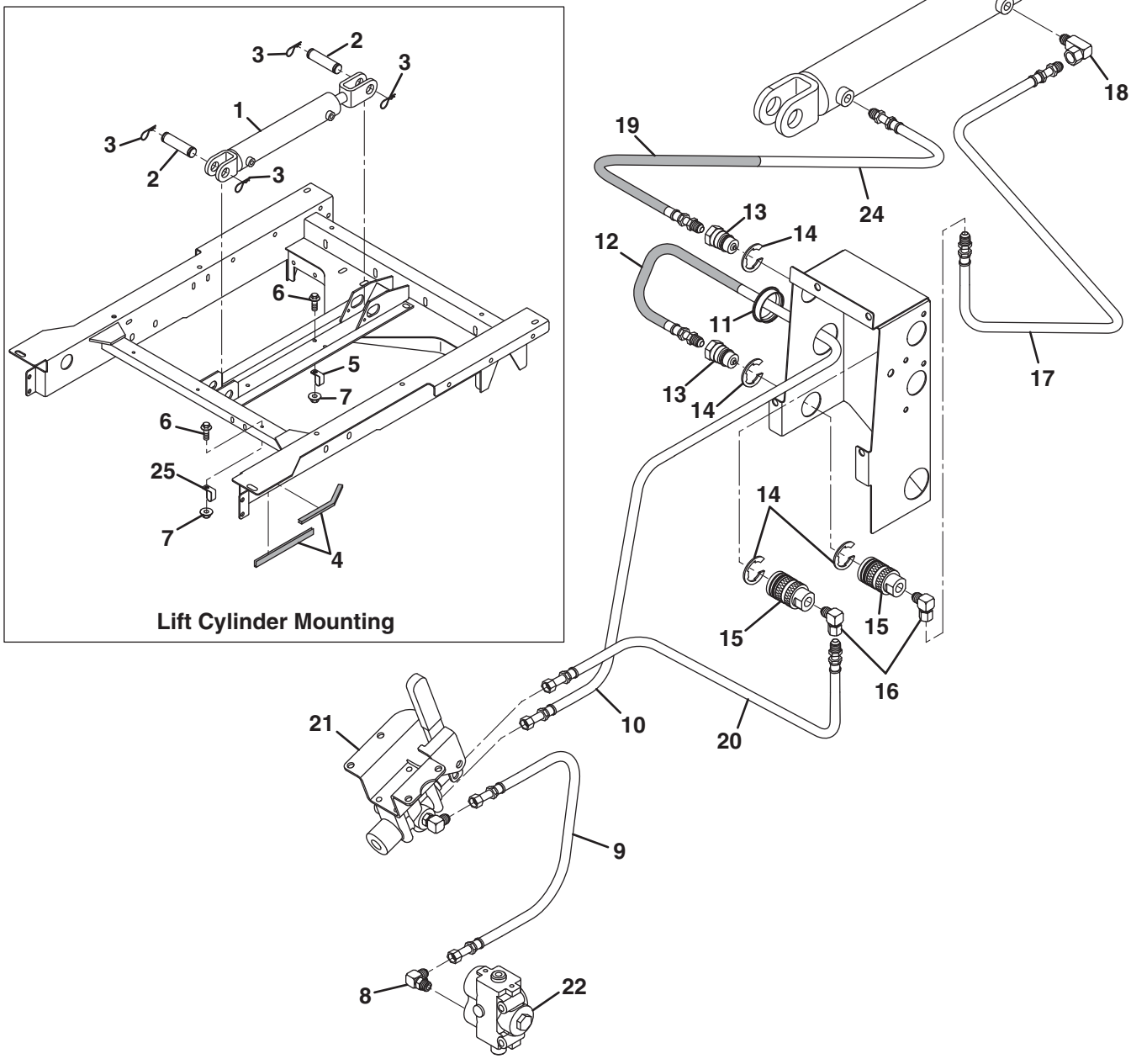


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	844564	1	Hose, Tank to Filter	
2	836206	4	Clamp, Hose	
3	844583	1	Fitting, 90°	
4	844566	1	Fitting, Straight	
5	844628	1	Hose, Pump to Selector Valve	
6	844652	1	Fitting, 9/16-18 x 3/4-16 Straight	
7	844600	1	Hose, Selector Valve to Coupler	
8	844571	1	Fitting, 9/16-18 x 3/4-16 90°	
9	835101	2	Fitting, 3/8 in. NPT 90°	
10	840877	1	Sleeve, Nylon	
11	4233001	1	Bushing, Flip Lock	
12	894702	1	Coupler Half, Dry Seal Male	
13	832414	2	Ring, Rataining	
14	894701	1	Coupler Half, Dry Seal Female	
15	452380	2	Screw, M6-1 x 00 mm Flange	
16	844973	2	Bushing	
17	450452	2	Nut, M6-1 Hex Flange	
18	844600	1	Hose, Coupler to Filter	
19	844627	4	Fitting, 3/4-16 Tee	
20	4118760	1	Hose, Control Valve to Filter	
21	844590	1	Fitting, 3/4-16 x 1-1/16-12 Straight	
22	894691	1	Head, FIlter	
23	885249	1	Filter Element	
24	3001025	1	Fitting, 90°	
25	844565	1	Hose, Filter to Tank	
26	REF	1	Control Valve	See 6.1
27	894696	1	Selector Valve	See 6.1
	892601	1	• Seal Kit	
28	887994	1	Pump, Hydraulic	
	463005	1	• Key, Woodruff #5	
	887017	1	• Seal Kit	
29	844937	1	Plate, Coupler Retainer	
30	320107	2	Tie, 7-1/2 in. Cable	Not Shown, Secures Nylon Sleeve

> Change from previous revision

41.1 Lift Cylinder Circuit

Serial No. All



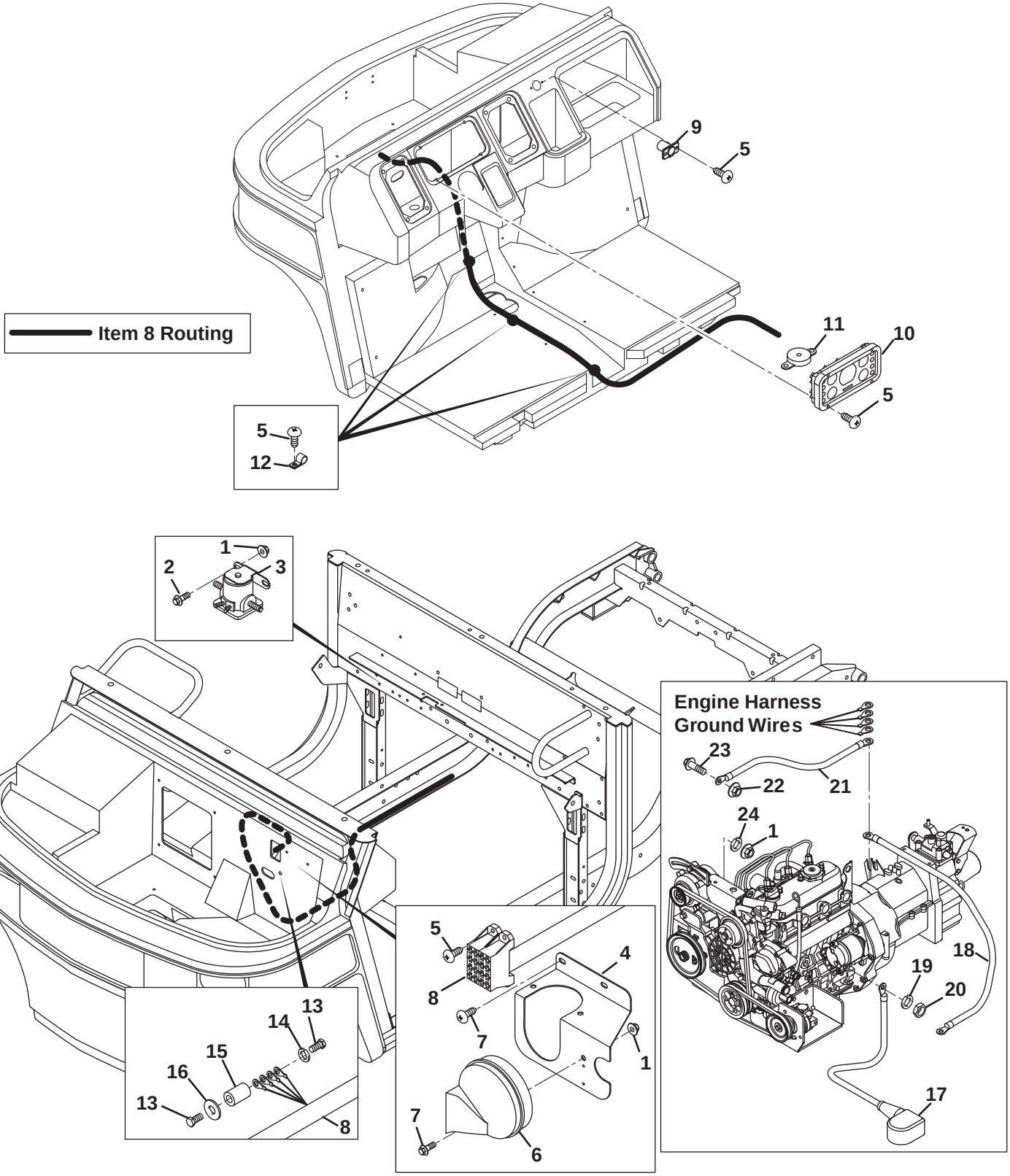
Lift Cylinder Mounting

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	882993	1	Cylinder, Dump Box	
	883236	1	• Seal Kit	Texas Hydraulics
	884574	1	• Seal Kit	Columbus Hydraulics
	886001	1	• Seal Kit	DANA Hydraulics
2	830810	2	Pin, Clevis	
3	809265	4	Hair Pin	
4	821893	AR	Trim, Push On	
5	817320	1	Clamp, Hose	
6	452378	2	Screw, M6-1 x 20 mm Hex Flange	
7	450452	2	Nut, M6-1 Hex Flange	
8	826558	1	Fitting, 9/16-18 90°	
9	844019	1	Hose, Selector Valve to Control Valve	
10	4124567	1	Hose, Control Valve to Coupler	Control Valve Port B
11	4233001	1	Bushing, Flip Lock	
12	840877	1	Sleeve, Nylon	
13	832408	2	Coupler Half, Male	
14	832414	4	Ring, Retaining	
15	832409	2	Coupler Half, Female	
16	835101	2	Fitting, 3/8 in. NPT 90°	
17	832900	1	Hose, Lift Cylinder to Coupler	
18	823119	1	Fitting, 1/4 in. NPT	
19	840877	1	Sleeve, Nylon	
20	844598	1	Hose, Control Valve to Coupler	Control Vale Port A
21	REF	1	Control Valve	See 6.1
22	REF	1	Selector Valve	See 6.1
23	320107	4	Tie, 7-1/2 in. Cable	Not Shown, Secures Nylon Sleeve
24	4124568	1	Hose, Lift Valve to Coupler	
25	842800	1	Clamp, Hose	

> Change from previous revision

42.1 Diesel Electrical Components

Serial No. 84063 All
Serial No. 84064 All

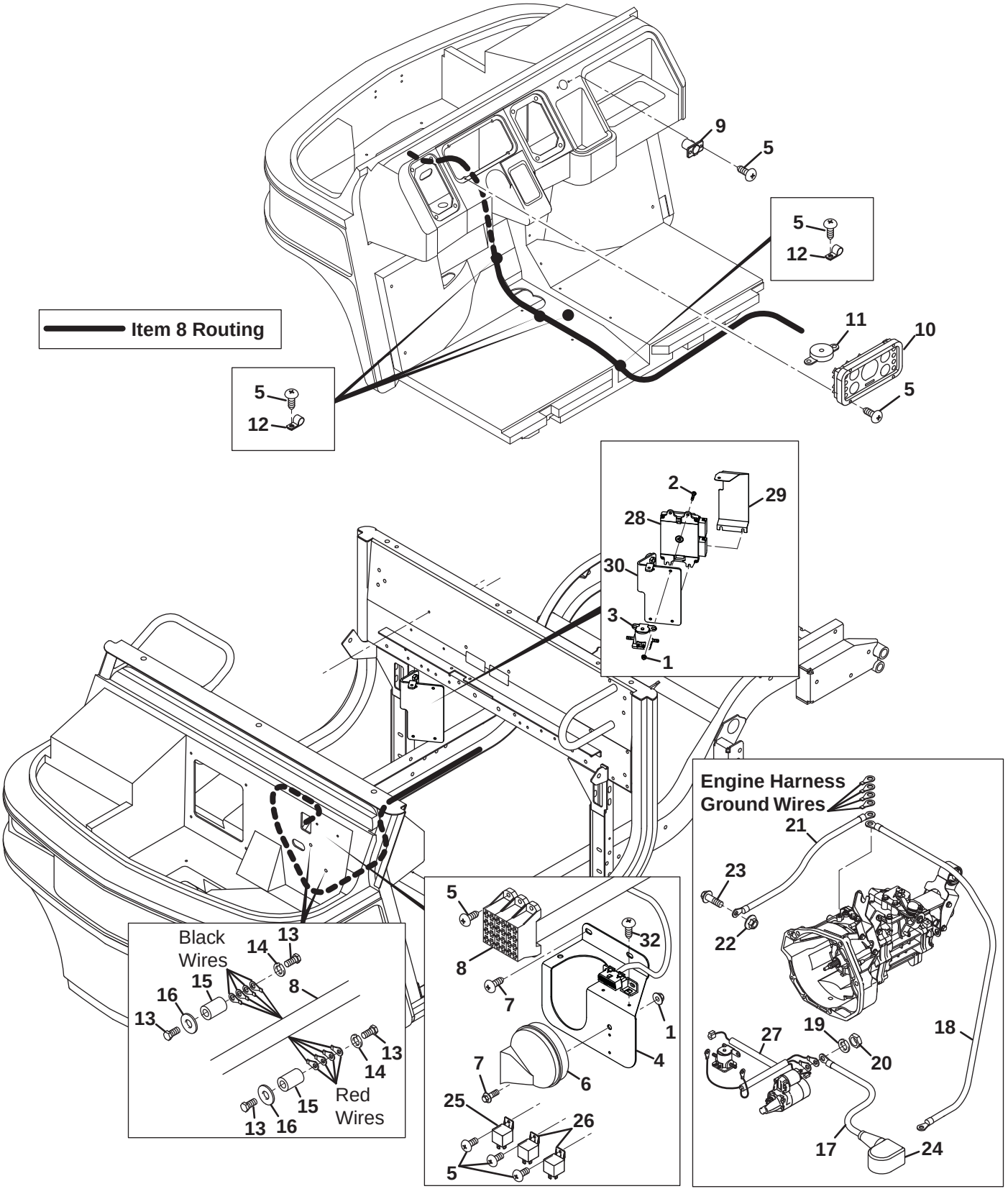


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	450452	4	Nut, M6-1 Hex Flange	
2	452378	2	Screw, M6-1 x 20 mm Hex Flange	
3	2701465	1	Solenoid, Starter	
	120052	2	• Lockwasher, #10	
	2702244	2	• Nut, #10-32 Hex	
	306325	2	• Lockwasher, 5/16	
	443106	2	• Nut, 5/16-18 Hex	
4	4244442	1	Bracket, Horn, Brake Fluid Reservior	
5	800943	7	Screw, #10-16 x 3/4 in. Thread Cutting	
6	886090	1	Horn	
7	800934	3	Screw, M6-1 x 16 mm Hex Flange	
8	894266	1	Harness, Main	See 54.1
9	843942	1	Socket, 12V Accessory Plug	
10	2701658	1	Panel, Instrument with Tachometer	
11	890000	1	Buzzer, High Temperature	Located inside front clip, behind dash panel
12	831225	4	Clamp, Wire Harness	
13	306419	2	Screw, 1/4-20 x 1/2 in. Hex Head	
14	306488	1	Lockwasher, 1/4 External Tooth	
15	828231	1	Insulator	
16	548175	1	Flat Washer, 1/4	
17	4183303	1	Positive (RED) Battery Cable	
18	4183301	1	Negative (BLACK) Battery Cable	Battery to Transmission
19	306325	1	Lockwasher, 5/16	
20	450324	1	Nut, M8-1.25 Hex	
21	894602	1	Cable, 32 in. Ground	Transmission to Right Frame Rail
22	450453	1	Nut, M8-1.25 Hex Flange	
23	452388	1	Screw, M8-1.25 x 20 mm Flange	
24	306396	1	Lockwasher, 1/4	

> Change from previous revision

43.1 Gas Electrical Components

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All



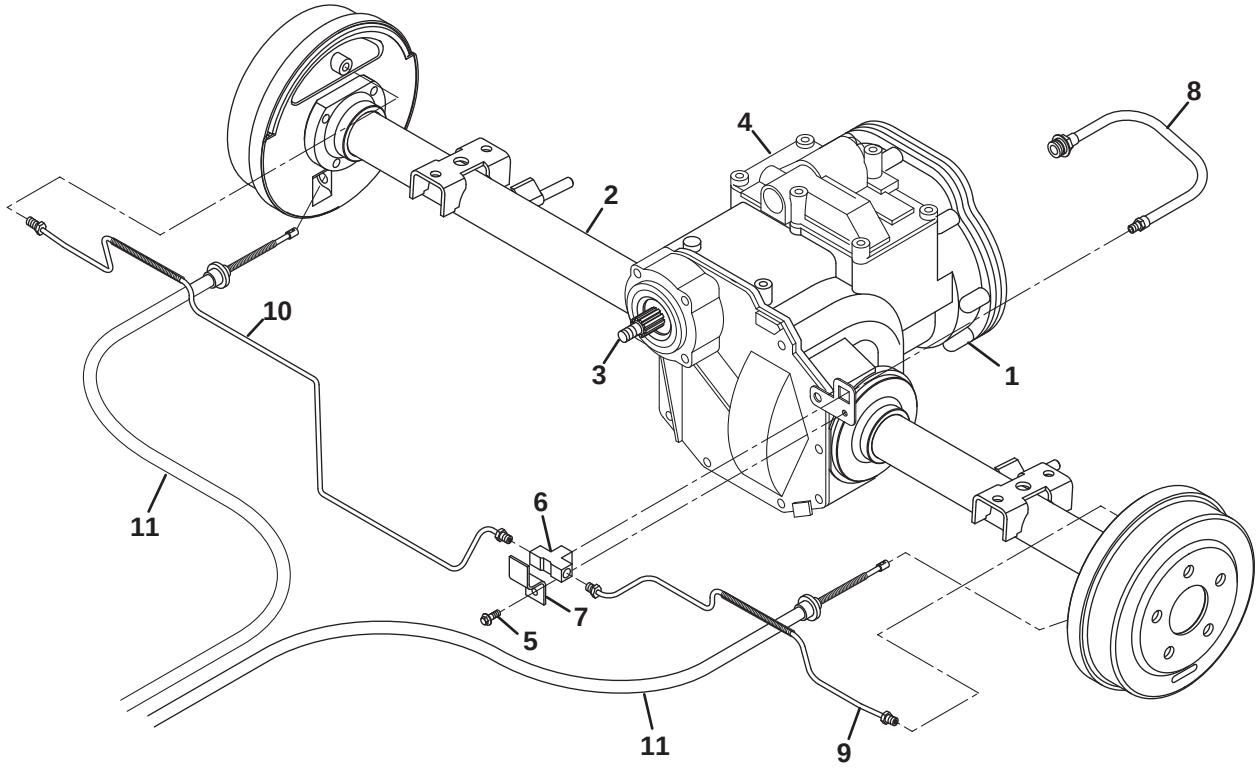
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	450452	4	Nut, M6-1 Hex Flange	
2	450544	4	Screw, M6 x 30 mm Pan Head	
3	2701464	1	Solenoid, Starter	
	120052	2	• Lockwasher, #10	
	2702244	2	• Nut, #10-32 Hex	
	306325	2	• Lockwasher, 5/16	
	443106	2	• Nut, 5/16-18 Hex	
4	4244442	1	Bracket, Horn, Brake Fluid Reservior	
5	800943	16	Screw, #10-16 x 3/4 in. Thread Cutting	
6	886090	1	Horn	
7	800934	3	Screw, M6-1 x 16 mm Hex Flange	
8	4238042	1	Harness, Main	See 54.1
9	843942	1	Socket, 12V Accessory Plug	
10	2701658	1	Panel, Instrument with Tachometer	
11	890000	1	Buzzer, High Temperature	Located inside front clip, behind dash panel
12	831225	4	Clamp, Wire Harness	
13	306419	4	Screw, 1/4-20 x 1/2 in. Hex Head	
14	306488	2	Lockwasher, 1/4 External Tooth	
15	828231	1	Insulator	
16	548175	2	Flat Washer, 1/4	
17	4183304	1	Positive (RED) Battery Cable	Manual Transmission
17	4183303	1	Positive (RED) Battery Cable	Automatic Transmission
18	4183301	1	Negative (BLACK) Battery Cable	Battery to Manual Transmission
18	4183302	1	Negative (BLACK) Battery Cable	Battery to Automatic Transmission
19	306325	1	Lockwasher, 5/16	
20	450324	1	Nut, M8-1.25 Hex	
21	894602	1	Cable, Frame Ground	Manual Transmission
21	884513	1	Cable, Frame Ground	Automatic Transmission
22	450453	1	Nut, M8-1.25 Hex Flange	
23	452388	1	Screw, M8-1.25 x 20 mm Flange	
24	4154081	1	Cover, Positive Battery Terminal	
25	4221100	1	Relay, EFI 12 V 70A SP	
26	843167	2	Relay, 12V 15A DPST	
27	4116017	1	Harness, Generator	
28	4249342	1	Controller, EFI Engine	Manual Transmission
28	4249343	1	Controller, EFI Engine	Automatic Transmission
29	4244712	1	Cover, Engine Controller	
30	4242482	1	Bracket, ECU Mounting	See 15.1
31	2700757	1	Clamp, Wire	
32	409804	2	Screw, #10-24 x 1/2” Thread Cutting	

> Change from previous revision

44.1 Differential Assembly

Serial No. All

Part Number 894826 (14.21:1 Differntial)
Part Number 894825 (11.16:1 Differential)



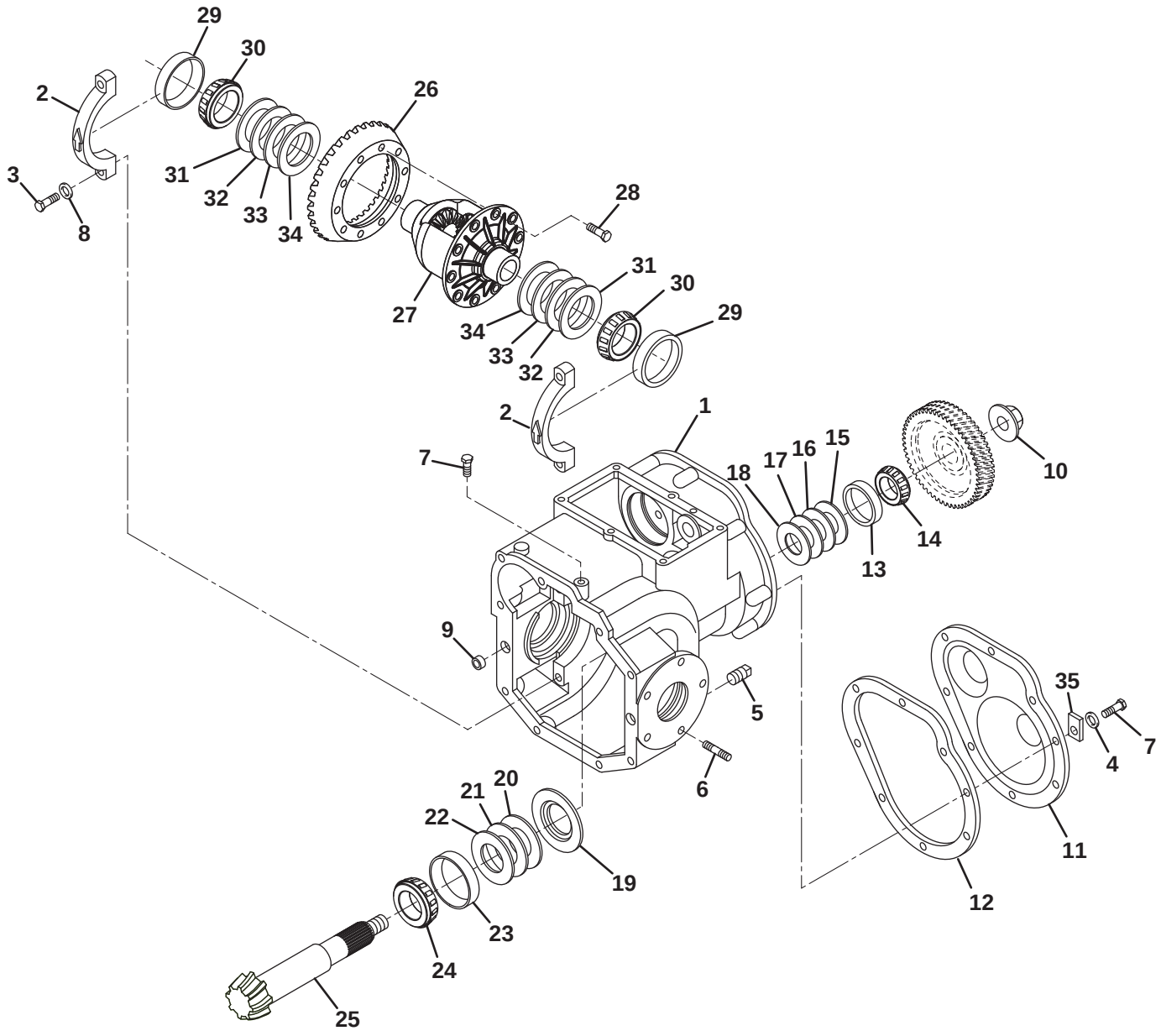
Item	Part No.	Qty.	Description	Serial Numbers/Notes
	894826	1	Differential Assembly	**14.21:1 Differential**
	894825	1	Differential Assembly	**11.16:1 Differential**
1	891829	1	• Differential Housing	See 45.1
2	N/S	1	• Axle Tubes and Shafts	See 46.1
3	N/S	1	• Input, Main and Jack Shaft	See 48.1
4	N/S	1	• Front and Shift Cover	See 47.1
5	112050	1	Screw, 1/4-20 x 5/8 in. Self Tap	
6	841842	1	Fitting, Hydraulic Brake Tee	
7	832584	1	Clamp, Tee Fitting	
8	841844	1	Hose, Brake	
9	841838	1	Tube, Left Side Brake	
10	841837	1	Tube, Right Side Brake	
11	893583	2	Cable, Parking Brake	

> Change from previous revision

45.1 Differential Housing

Serial No. All

Part Number 891829

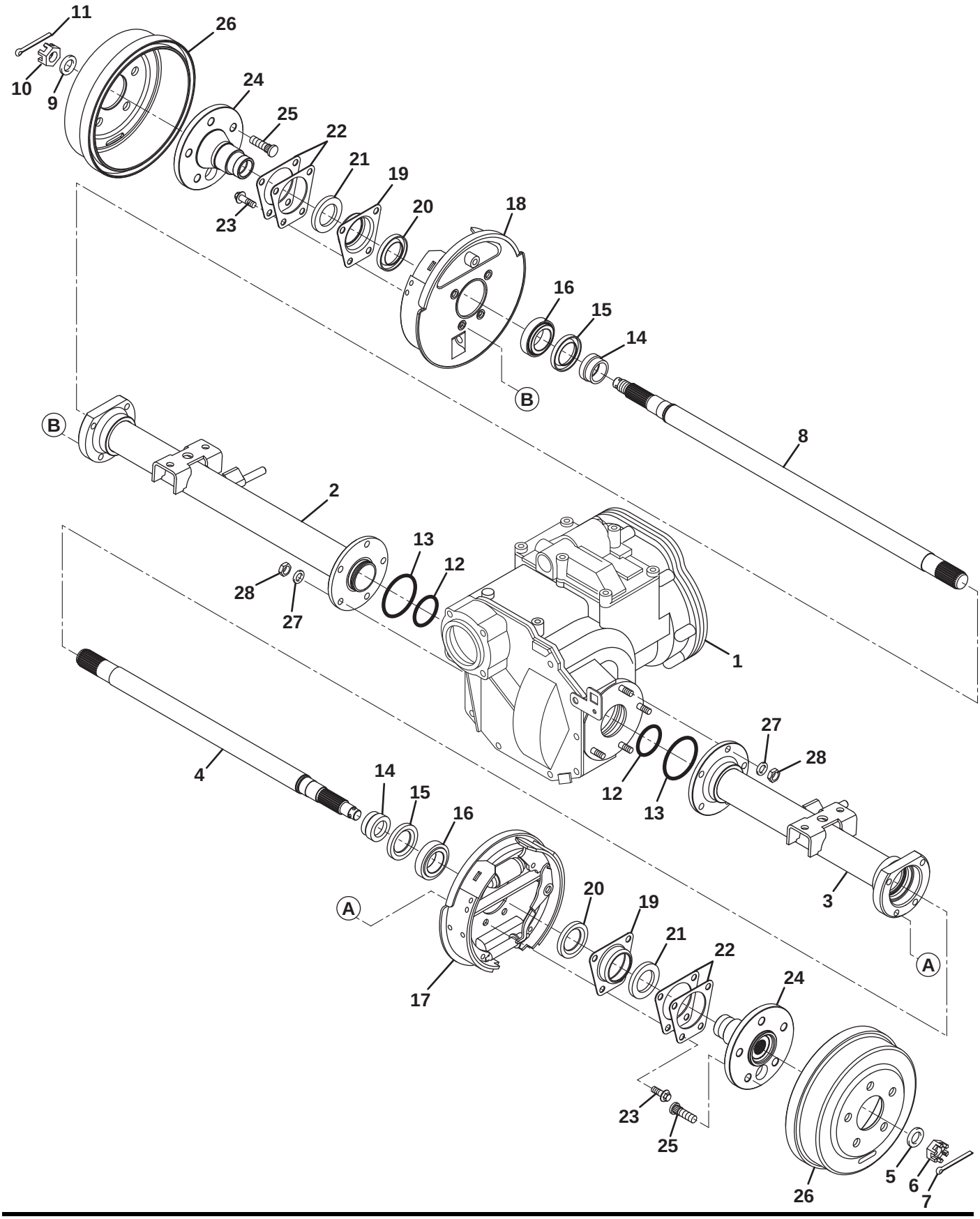


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	891829	1	Differential Housing	
2	N/S	2	• Bearing Caps	
3	306829	4	• Screw, 7/16-14 x 2 in. Hex Head	
4	103867	8	• Flat Washer, 5/16	
5	111074	1	• Plug, Drain	
6	111758	10	• Stud, 3/8-16 & 3/8-24 x 1-23/32	
7	306416	9	• Screw, 5/16-18 x 7/8 in. Hex Head	
8	306982	4	• Flat Washer, 7/16	
9	517226	2	• Bushing	
10	800973	1	• Nut, 3/4-16 Hex Lock	
11	836443	1	• Rear Cover	
12	4211800	1	• Spacer, Differential	
13	814476	1	• Cup, Bearing (2-17/32 in. O.D.)	
14	836680	1	• Cone, Bearing (1-1/8 in. I.D.)	
15	836688	AR	• Shim, .003 Thick	Add or remove shims as required to adjust gear backlash
16	836689	AR	• Shim, .005 Thick	
17	836690	AR	• Shim, .010 Thick	
18	836691	AR	• Shim, .030 Thick	
19	836692	1	• Baffle, Oil	
20	836685	AR	• Shim, .003 Thick	Add or remove shims as required to adjust gear backlash
21	836686	AR	• Shim, .005 Thick	
22	836687	AR	• Shim, .010 Thick	
23	836677	1	• Cup, Bearing (2.84 in. O.D.)	
24	836678	1	• Cone Bearing (1-3/8 in. I.D.)	
25	889870	1	• Gear Set	
26	N/S	1	• • Pinion Gear and Shaft	
	N/S	1	• • Ring Gear	
27	889871	1	• Differential Carrier	
28	800717	10	• Screw, 3/8-24 x 13/16 Hex Head	
29	836675	2	• Cup, Bearing (2.89 in. O.D.)	
30	836676	2	• Cone, Bearing, (1-5/8 in. I.D.)	
31	836681	AR	• Shim, .003 Thick	Add or remove shims as required to adjust gear backlash
32	836682	AR	• Shim, .005 Thick	
33	836683	AR	• Shim, .010 Thick	
34	836684	AR	• Shim, .030 Thick	
35	839948	1	Tag, 14.21:1 Ratio	

> Change from previous revision

46.1 Axle Tubes and Shafts

Serial No. All



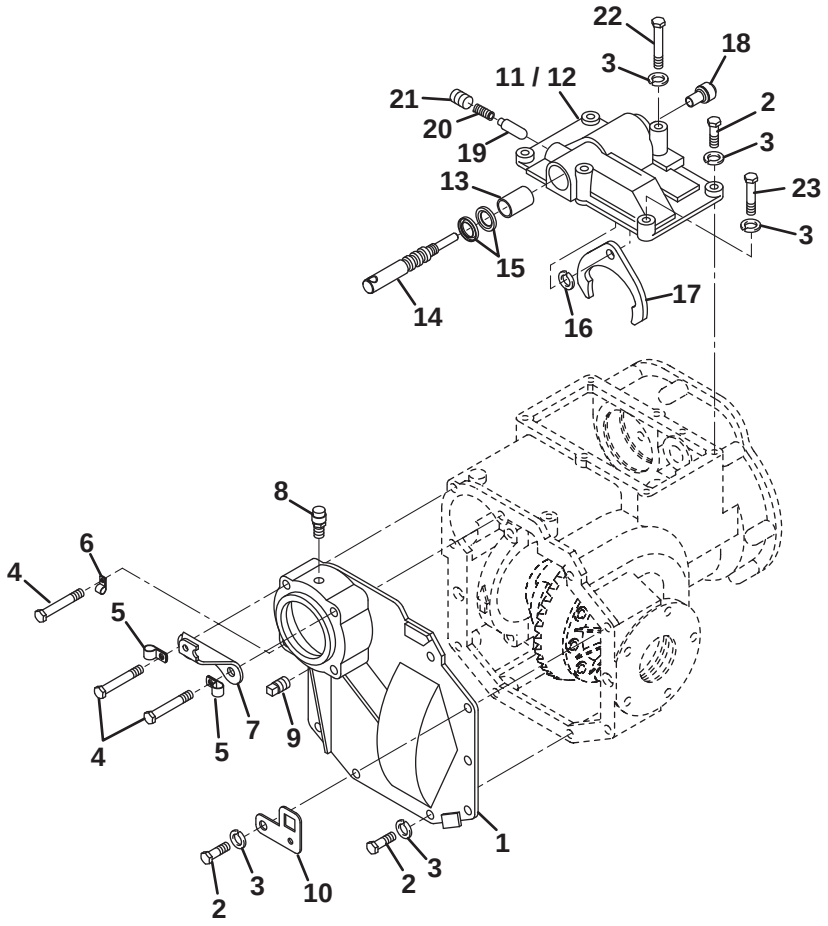
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	894826	1	Differential Assembly	**14.21:1 Differential**
1	894825	1	Differential Assembly	**11.16:1 Differential**
2	2702535.7	1	• Tube, Right Side Axle	
3	2702534.7	1	• Tube, Left Side Axle	
4	2700530	1	• Left Side Axle Assembly	
	2700514	1	• • Shaft, Left Side Axle	
5	845356	1	• • Washer	
6	800743	1	• • Nut, 5/8-18 Slotted Hex	
7	304636	1	• • Cotter Pin, 1/8 x 1-1/8 in.	
8	2700531	1	• Right Side Axle Assembly	
	2700515	1	• • Shaft, Right Side Axle	
9	845356	1	• • Washer	
10	800743	1	• • Nut, 5/8-18 Slotted Hex	
11	304636	1	• • Cotter Pin, 1/8 x 1-1/8 in.	
12	836694	2	• Seal, 1-3/4 in. I.D. O-Ring	
13	2703481	2	• Seal, 2 in. I.D. O-Ring	
14	4171761	2	• Collar, Axle Bearing	
15	838539	2	• Seal, Oil	
16	836695	2	• Bearing, Tapered Roller	
17	893581	1	• Left Side Brake Assembly	Includes Parking Brake Lever
	894930	1	• • Kit, Brake Cylinder	Replacement of Cylinder
	894931	1	• • Kit, Brake Cylinder Repair	Repair of Cylinder
	2701253	1	• • Kit, Brake Shoe	Includes Left and Right sides
	894933	1	• • Kit, Left Side Spring	
	894935	1	• • Kit, Left Side Adjuster Repair	
18	893582	1	• Right Side Brake Assembly	Includes Parking Brake Lever
	894930	1	• • Kit, Brake Cylinder	Replacement of Cylinder
	894931	1	• • Kit, Brake Cylinder Repair	Repair of Cylinder
	2701253	1	• • Kit, Brake Shoe	Includes Left and Right sides
	894934	1	• • Kit, Right Side Spring	
	894936	1	• • Kit, Right Side Adjuster Repair	
19	893519	2	• Retainer , Complete	
20	838539	1	• • Seal, Oil	
21	2703309	2	• Washer, Hardened	
22	844813	4	• Ring, Backing	
23	800944	8	• Screw, M10-1.5 x 25 mm	
24	2701408	2	• Hub, Rear Wheel	
25	800908	5	• • Bolt, Wheel	
26	841430	2	• Drum, Brake	
27	306405	10	• Washer, 3/8	
28	805387	10	• Locknut, 3/8-24 Special	

> Change from previous revision

47.1 Front and Shifter Cover

Serial No. All

14.21:1 Differential (894826)
11.16:1 Differential (894825)



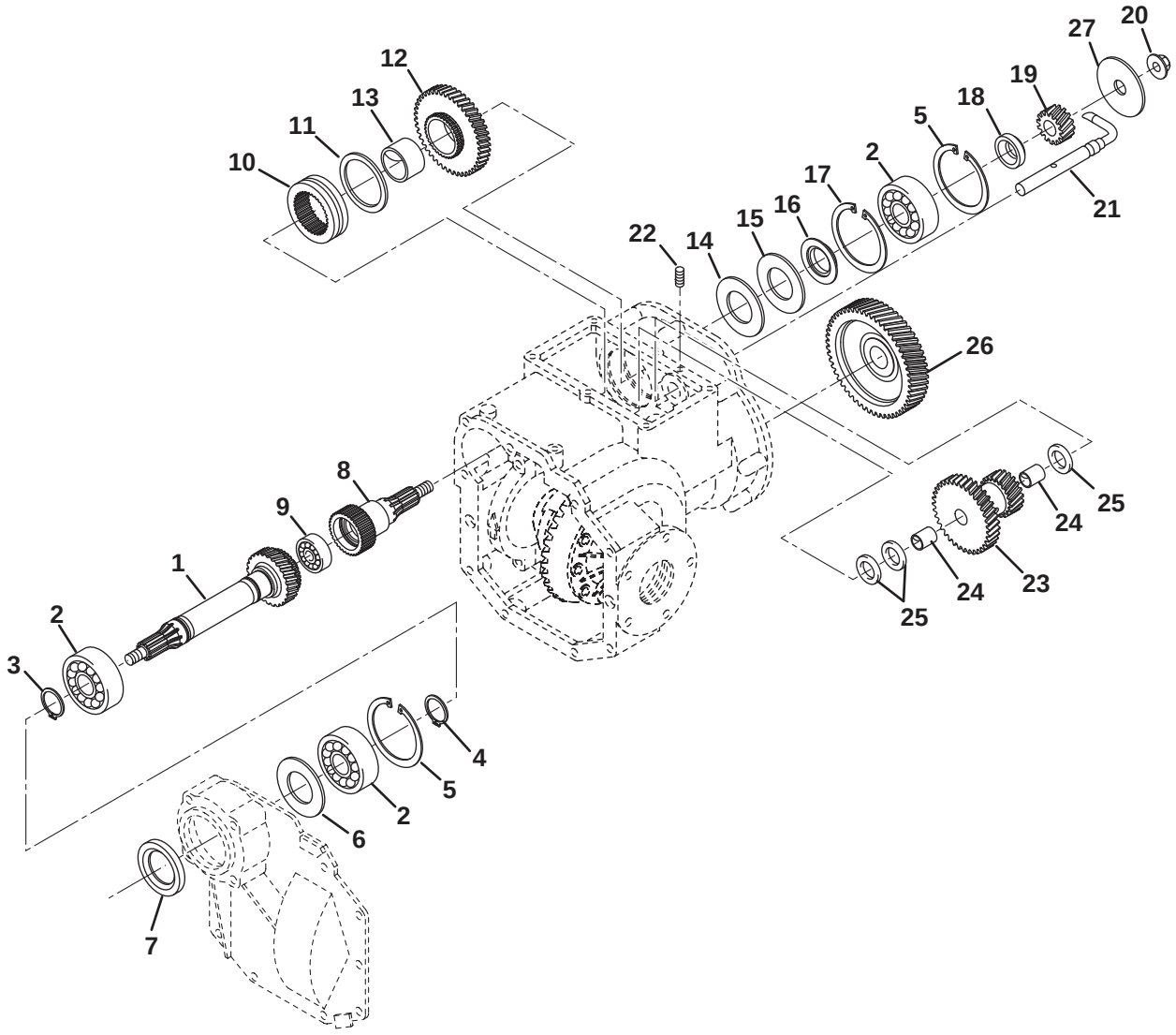
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	836431	1	Cover, Front	
2	306322	12	Screw, 5/16-18 x 7/8 in. Hex Head	
3	103867	14	Flat Washer, 5/16	
4	307776	3	Screw, 3/8-16 x 2-3/4 in. Hex Head	
5	810437	2	Clamp, 1/2 in. P	14.21:1 Differential Only
6	810435	1	Clamp	Right Side Brake Tube
7	836841	1	Bracket, Shift Cable	
8	836852	1	Breather	
9	111074	1	Plug, Fill	
10	836959	1	Bracket, Brake Tee Mounting	
11	889780	1	Shift Cover Assembly	
12	889925	1	• Cover	
13	N/S	1	• • Bushing	
14	836658	1	• Shaft, Shift	
15	831099	2	• Seal, Oil	
16	548937	1	• Lockwasher, 7/16	
17	836657	1	• Fork, Shift	
18	836662	1	• Bushing, Guide	
19	807366	1	• Button, Positioning	
20	2700493	1	• Spring	
21	548204	1	• Set Screw, 3/8-16 x 3/8 in.	
22	306423	2	Screw, 5/16-18 x 1-3/4 in. Hex Head	
23	306435	1	Screw, 5/16-18 x 1-1/4 in. Hex Head	

> Change from previous revision

48.1 Input, Main and Jack Shafts

Serial No. All

14.21:1 Differential (894826)
11.16:1 Differential (894825)



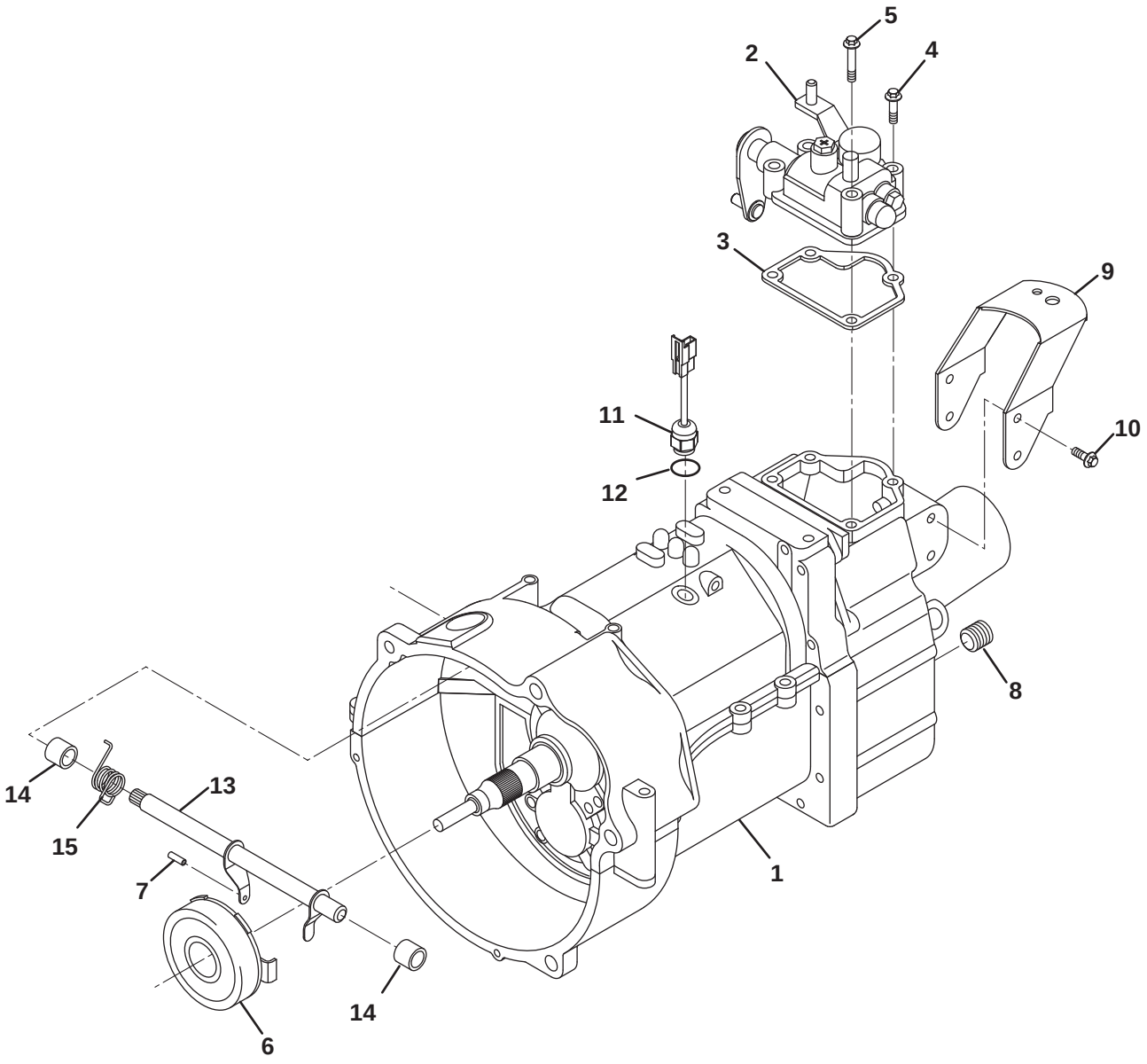
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	836421	1	Shaft, Input	
2	836693	3	Bearing, Ball	
3	809254	1	Ring, External Retaining	
4	800695	1	Ring, External Retaining	
5	800737	2	Ring, Internal Retaining	
6	837020	1	Baffle, Vent	
7	812335	1	Seal, Oil	
8	4184901	1	Shaft, Main	
9	812009	1	Bearing, Ball	
10	836429	1	Collar, Engaging	
11	844956	1	Bearing, Bronze Thrust	
12	894886	1	Gear, Driven	
13	812006	1	• Bushing	
14	811993	1	Bearing, Thrust	
15	844951	AR	Shim, .003 Thick	Add or remove shims as required to adjust gear backlash.
15	844952	AR	Shim, .005 Thick	
15	844953	AR	Shim, .010 Thick	
16	845034	1	Collar, Thrust	
17	548952	1	Lockring	
18	836420	1	Spacer, Pinion	
19	4184900	1	Pinion, 15 Tooth	**14.21:1 Differential (894826)**
19	4211960	1	Pinion, 18 Tooth	**11.16:1 Differential (894825)**
20	800911	1	Nut, 9/16-18 Crown Lock	
21	891089	1	Jackshaft	
22	548201	1	Set Screw, 5/16-18 x 5/16	
23	894519	1	Cluster Gear	
24	844087	2	• Bushing	
25	811992	3	Shim, CLuster Gear	
26	842360	1	Gear, 52 Tooth	**14.21:1 Differential (894826)**
26	836441	1	Gear, 49 Tooth	**11.16:1 Differential (894825)**
27	4186900	1	Baffle, Oil Scoop	

> Change from previous revision

49.1 Transmission Clutch Release-Shift Selector

Serial No. 84063 - All
Serial No. 84064 - All

Diesel Engine Only



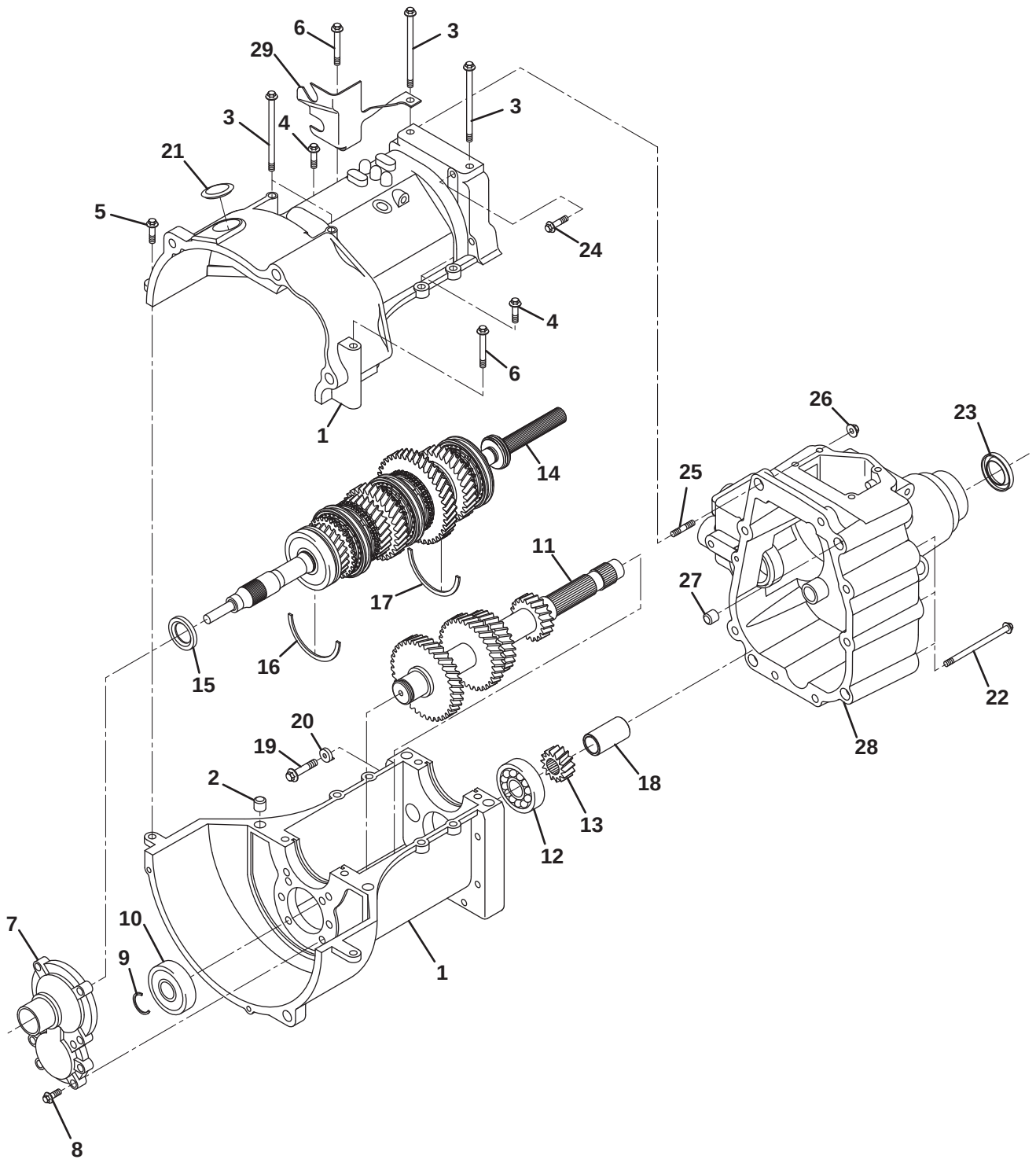
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Transmission Case	See 50.1
2	REF	1	Shift Assembly	See 52.1
3	845223	1	Gasket, Shift Case	
4	2702659	3	Screw, M8-1.25 x 40 mm	
5	01550-08553	1	Screw, M8-1.25 x 55 mm	
6	23265-85200	1	Bearing, Clutch Release	
7	09205-03019	1	Roll Pin	
8	2702684	1	Plug, Drain	
9	11741-85200	1	Support, Transmission	
10	2702475	4	Screw	
11	37610-80043	1	Switch, Backup Light	
12	09280-11002	1	• O-Ring	
13	23260-85203	1	Shaft, Clutch Release	
14	09300-14017	2	Bushing, Clutch Release	
15	09448-20007	1	Spring, Clutch Release	

> Change from previous revision

50.1 Transmission Case

Diesel Engine Only

Serial No. 84063 - All
Serial No. 84064 - All

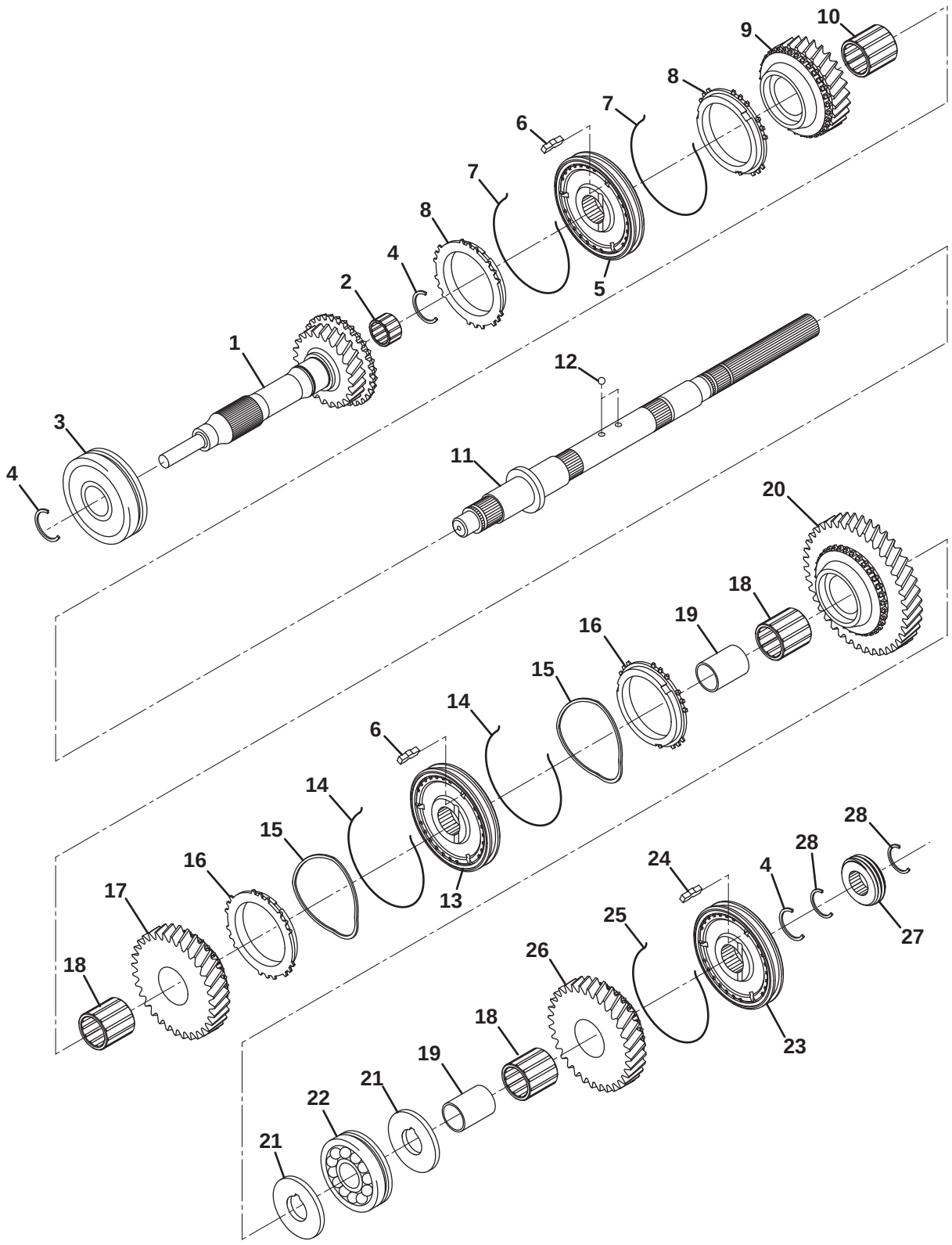


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	24700-85200	1	Case, Transmission	Upper and Lower Half
2	2702690	2	• Pin, Alignment	
3	2702665	4	• Screw, M8-1.25 x 120 mm Flange	
4	2702470	3	• Screw, M8-1.25 x 30 mm Flange	
5	2702659	1	• Screw, M8-1.25 x 40 mm Flange	
6	2702471	2	• Screw, M8-1.25 Flange	
7	24741-83001	1	Retainer, Input Shaft Bearing	
8	09103-08152	8	Screw, M8-1.25 x 25 mm Flange	
9	09380-28007	1	Cir CLip	
10	09262-28019	1	Bearing, Front	
11	24131-83002	1	Counter Shaft	
12	09262-28020	1	Bearing, Center	
13	24671-83000	1	Gear, Countershaft Reverse	
14	REF	1	Input and Main Shaft	See 51.1
15	09283-25088	1	Seal, Oil	
16	09390-68002	1	C-Ring	
17	09390-62010	1	C-Ring	
18	844184	1	Spacer, 5th Gear	
19	452381	1	Screw, M6-1 x 40 mm Flange	
20	844186	1	Washer, Special	
21	2702662	1	Plug, Inspection Timing	
22	452396	7	Screw, M8-1.25 x 90 mm Flange	
23	2702683	1	Seal, Extension Case	
24	452390	1	Screw, M8-1.25 x 30 mm Flange	
25	01421-08303	1	Stud, M8-1.25	
26	450324	1	Nut, M8-1.25 Hex Flange	
27	2702690	2	Pin, Alignment	
28	N/S	1	Mechanical PTO Assembly	See 53.1
29	28391-85202	1	Bracket, Shift Cables	

> Change from previous revision

51.1 Input and Main Shaft

Serial No. 84063 - All
Serial No. 84064 - All

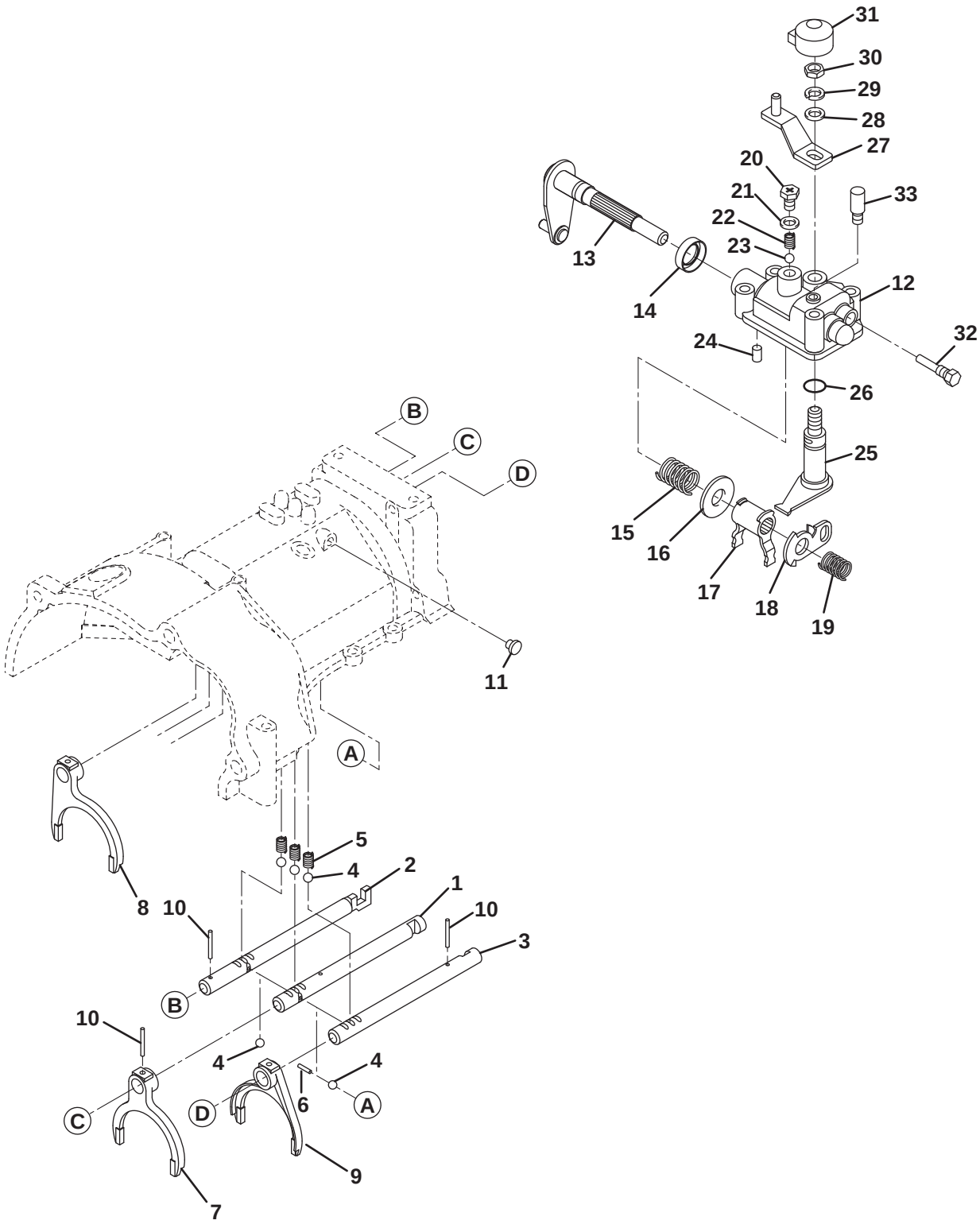


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	24110-80410	1	Shaft, Input	4th Gear
2	2702561	1	Bearing, Needle	
3	4141037	1	Bearing, Input Shaft Ball	
4	09380-28007	3	Cir Clip	
5	24410-83000	1	High Speed Syncroniser	Includes Hub and Sleeve
6	24471-60A00	6	Key, Syncronizer	
7	2703581	2	Spring, High Speed Syncronizer	
8	24432-83001	3	Ring, Syncronizer	
9	2703453	1	Gear, Main Shaft 3rd	3rd Gear
10	09263-30031	1	Bearing, Needle	
11	24121-85252	1	Shaft, Main	
12	06111-06003	2	Ball	
13	24400-83002	1	Low Speed Syncronizer	Includes Hub and Sleeve
14	24436-83000	2	Spring, Low Speed Syncronizer	
15	2703580	2	Spring, Low Speed	
16	24431-83001	2	Ring, Low Speed Syncronizer	
17	24220-60A01	1	Gear, Main Shaft 2nd	2nd Gear
18	09263-35015	3	Bearing, Needle	
19	09300-30003	2	Bushing	
20	24211-83011	1	Gear, Main Shaft Low	1st Gear
21	09166-30007	2	Washer	
22	09262-30086	1	Bearing, Ball	
23	24420-83000	1	Syncronizer, Reverse Drive	Includes Hub and Sleeve
24	24473-70D10	3	Key, Syncronizer	
25	2703581	1	Spring, Reverse Syncronizer	
26	4119000	1	Gear, Main Shaft Reverse	Reverse Gear
27	26121-85202	1	Gear, Speedometer Drive	
28	2702559	2	Cir Clip	

> Change from previous revision

52.1 Gear Shift Fork Linkage

Serial No. 84063 - All
Serial No. 84064 - All



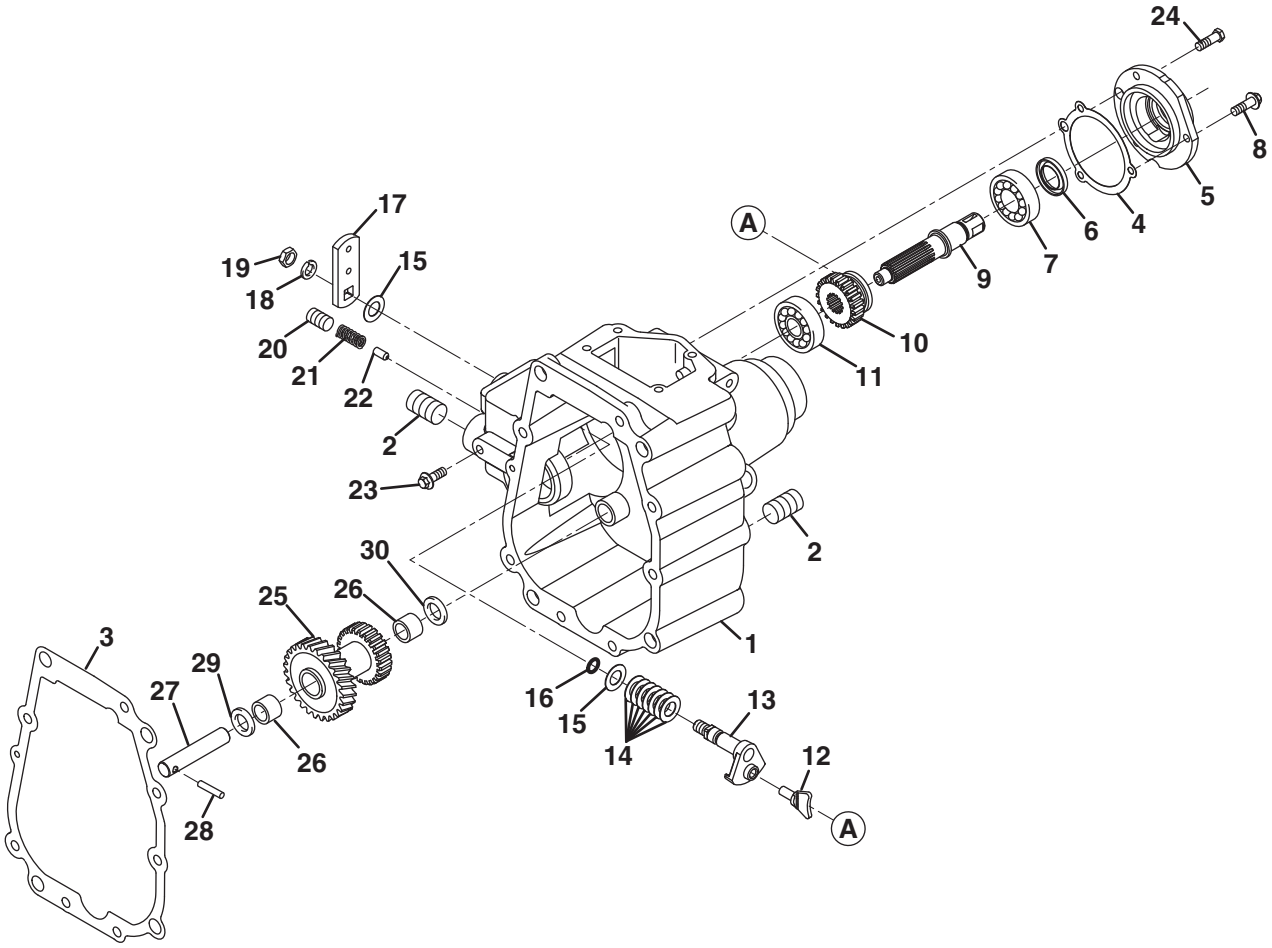
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	25411-85201	1	Shaft, Low Speed Fork	1st and 2nd Gear
2	25420-85201	1	Shaft, High Speed Fork	3rd and 4th Gear
3	25451-85261	1	Shaft, Reverse Fork	Reverse
4	06111-12004	5	Ball	
5	25415-83000	3	Spring, Detent	
6	09261-03017	1	Roller	
7	2703699	1	Fork, Low Gear Shift	1st and 2nd Gear
8	2703699	1	Fork, High Gear Shift	3rd and 4th Gear
9	2703582	1	Fork, Reverse Gear Shift	Reverse
10	09205-05012	3	Pin, 4 x 25 mm Spring	
11	09250-10006	1	Plug, Locating	
12	2703454	1	Case, Gear Shift Lever	
13	25520-85203	1	Shaft. Grear Shift Lever	
14	09284-17004	1	Seal, Oil	
15	25576-70D00	1	Spring	
16	09160-17035	1	Washer, 17 x 32 x 1.2 mm	
17	25541-85201	1	Lever, Gear Select	
18	25545-85055	1	Dog, Reverse Shift Limit	
19	25546-60C01	1	Spring	
20	09128-10002	1	Bolt, M10 x 9 mm Retaining	
21	09168-10007	1	Gasket	
22	25547-70D00	1	Spring	
23	09135-08005	1	Ball	
24	2701953	1	Pin	
25	25530-79501	1	Shaft, Gear Select	
26	09286-09001	1	Seal, Oil	
27	25535-85412	1	Arm, Gear Select	
28	09162-08008	1	Washer	
29	2702883	1	Washer	
30	2702494	1	Nut, M8-1.25 Hex	
31	25536-84200	1	Boot, Gear Select	
32	09135-08005	1	Bolt, Retaining	
33	24821-09001	1	Plug, Breather	

> Change from previous revision

53.1 Mechanical PTO

Diesel Units Only

Serial No. 84063 - All
Serial No. 84064 - All



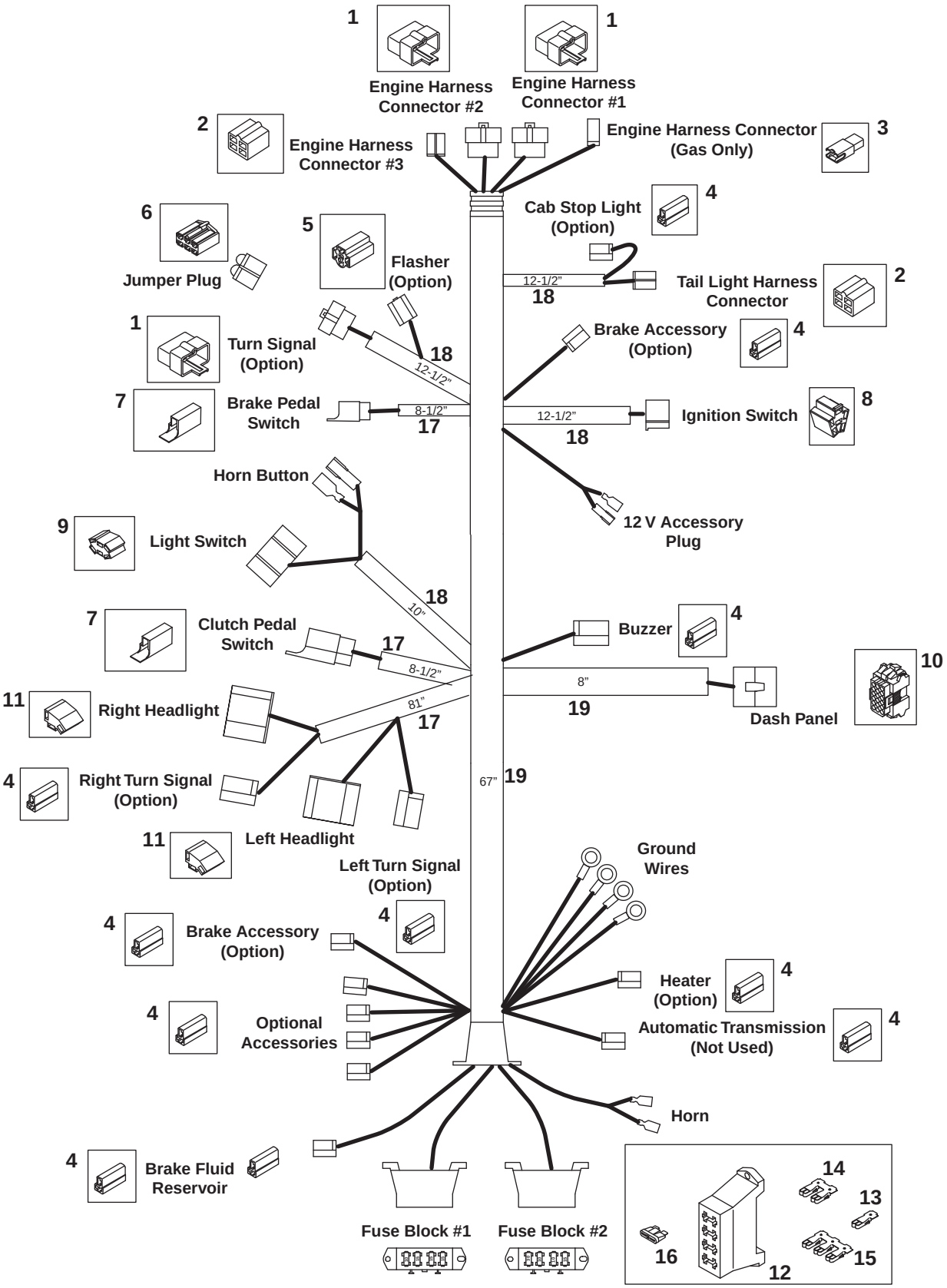
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	845257	1	Housing, Mechanical PTO	
2	N/S	1	Bushing, Output Shaft	
3	2700121	1	Gasket, PTO Housing to Trasmission	
4	2700120	1	Gasket, Bearing Housing	
5	894989	1	Housing, Bearing	
6	844188	1	• Seal, Oil	
7	815093	1	• Bearing, Ball	
8	452389	3	Screw, M8-1.25 x 25 mm Flange	
9	844185	1	Shaft, PTO Output	
10	815182	1	Gear, 21 Tooth PTO Sliding	
11	844187	1	Bearing, Ball	
12	815085	1	Fork, Sliding	
13	879807	1	Arm, PTO Shifter	
14	548477	AR	Shim	
15	812419	AR	Shim, Transmission	
16	807624	1	O-Ring	
17	817397	1	Arm, PTO Shifter	
18	120166	1	Lockwasher, 1/2	
19	301988	1	Nut, 1/2-20 Hex	
20	548204	1	Set Screw, 3/8-16 x 3/8	
21	815012	1	Spring	
22	815013	1	Button	
23	452380	1	Screw, M6-1 x 30 mm Flange	
24	800425	1	Screw, M6-1 x 12 mm Hex Head	
25	894965	1	Gear, Idler	
26	N/S	2	• Bushing, Countershaft	
27	894947	1	Shaft, Idler	
28	316942	1	• Pin, 1/4 x 1/2 in. Spirol	
29	09166-16014	1	Washer	
30	805307	1	Washer, 5/8 x 1	
31	09246-16010	2	Plug, 1/2 NPT	

> Change from previous revision

54.1 Diesel Engine Main Harness

Part Number 894266

Serial No. 84063 - All
Serial No. 84064 - All



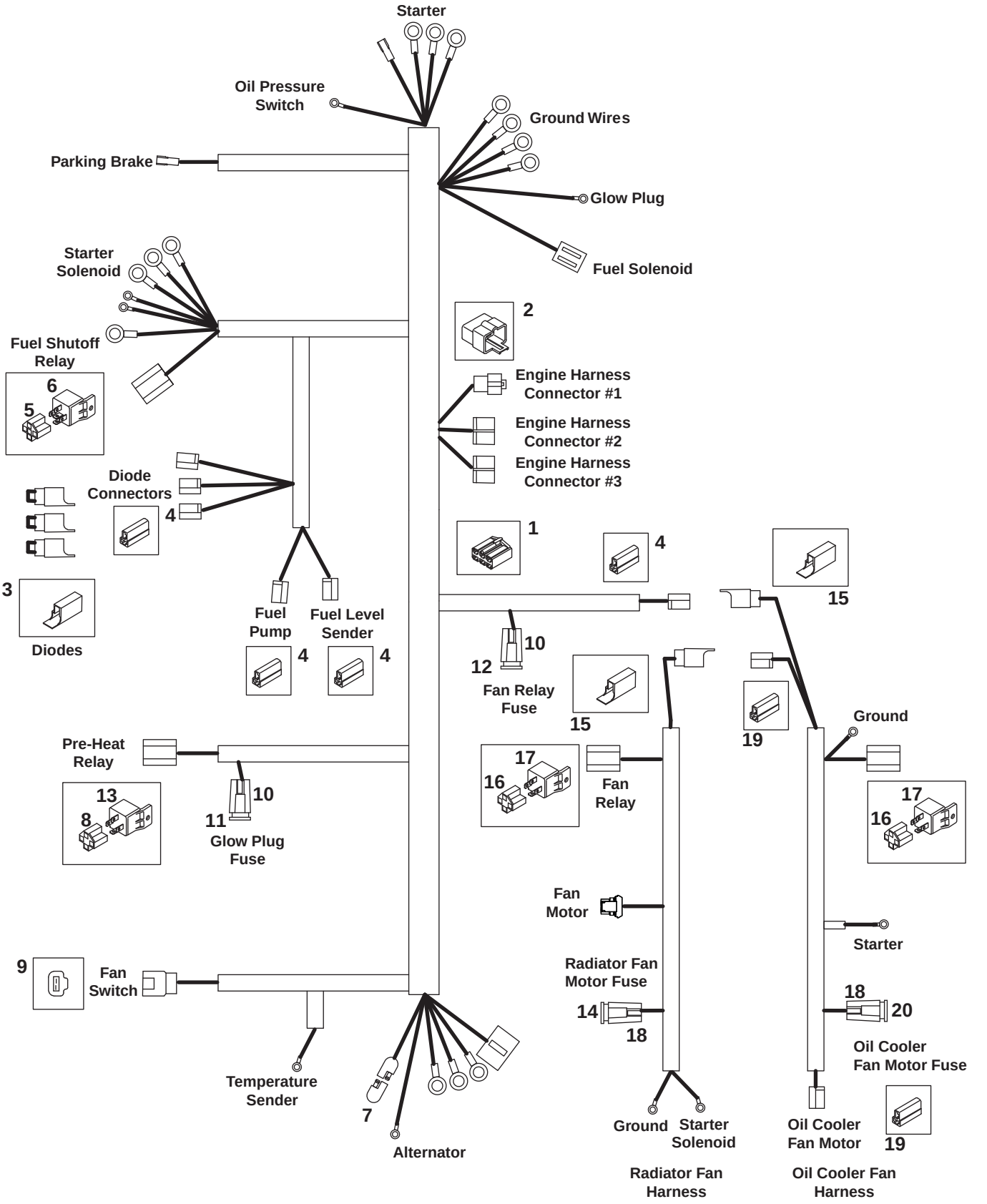
Item	Part No.	Qty.	Description	Serial Number / Notes
1	825973	3	Connecter, Six Male Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	Single Wire
	825961	AR	Terminal, 1/4 in. Male 10 Gauge	Two Wire
2	829630	2	Connector, Four Female Terminal	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
3	826726	1	Connector, One Female Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	
4	826005	13	Connector, Two Female Terminal	
	825748	AR	Terminal, 1/ in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
5	825894	1	Connector, Flasher	
	825899	AR	Terminal, 5/16 in. Female 14-16 Gauge	
6	825877	1	Connector, Six Female Terminal	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
7	826006	2	Connector, Two Male Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	
8	837296	1	Connector, Ignition Switch	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
9	843598	1	Connector, Rocker Switch	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
10	843550	1	Connector, Eighteen Terminal	
	843551	AR	Terminal	
11	837301	2	Connector, Headlight	
	825899	AR	Terminal, 5/16 in. Female 14-16 Gauge	One Wire
	828629	AR	Terminal, 5/16 in. Female 14-16 Gauge	Two Wire
12	825996	1	Fuse Holder	
13	825997	4	Fuse Clip, 1 Term., 14-16 Gauge	
14	825998	6	Fuse Clip, 1 Term, 10 Gauge	
15	825999	2	Fuse Clip, 3 Term. 14-16 Gauge	
16	836892	5	Fuse, 10 Amp	
16	842983	2	Fuse, 15 Amp	
16	826000	1	Fuse, 20 Amp	
17	826190	AR	Tubing, 3/8 in. I.D. Black Convoluted	
18	826191	AR	Tubing, 1/2 in. I.D. Black Convoluted	
19	826192	AR	Tubing, 3/4 in. I.D. Black Convoluted	

> Change from previous revision

55.1 Diesel Engine and Fan Harness

Part Numbers 4174321, 4179800, and 4179801

Serial No. 84063 - All
Serial No. 84064 - All



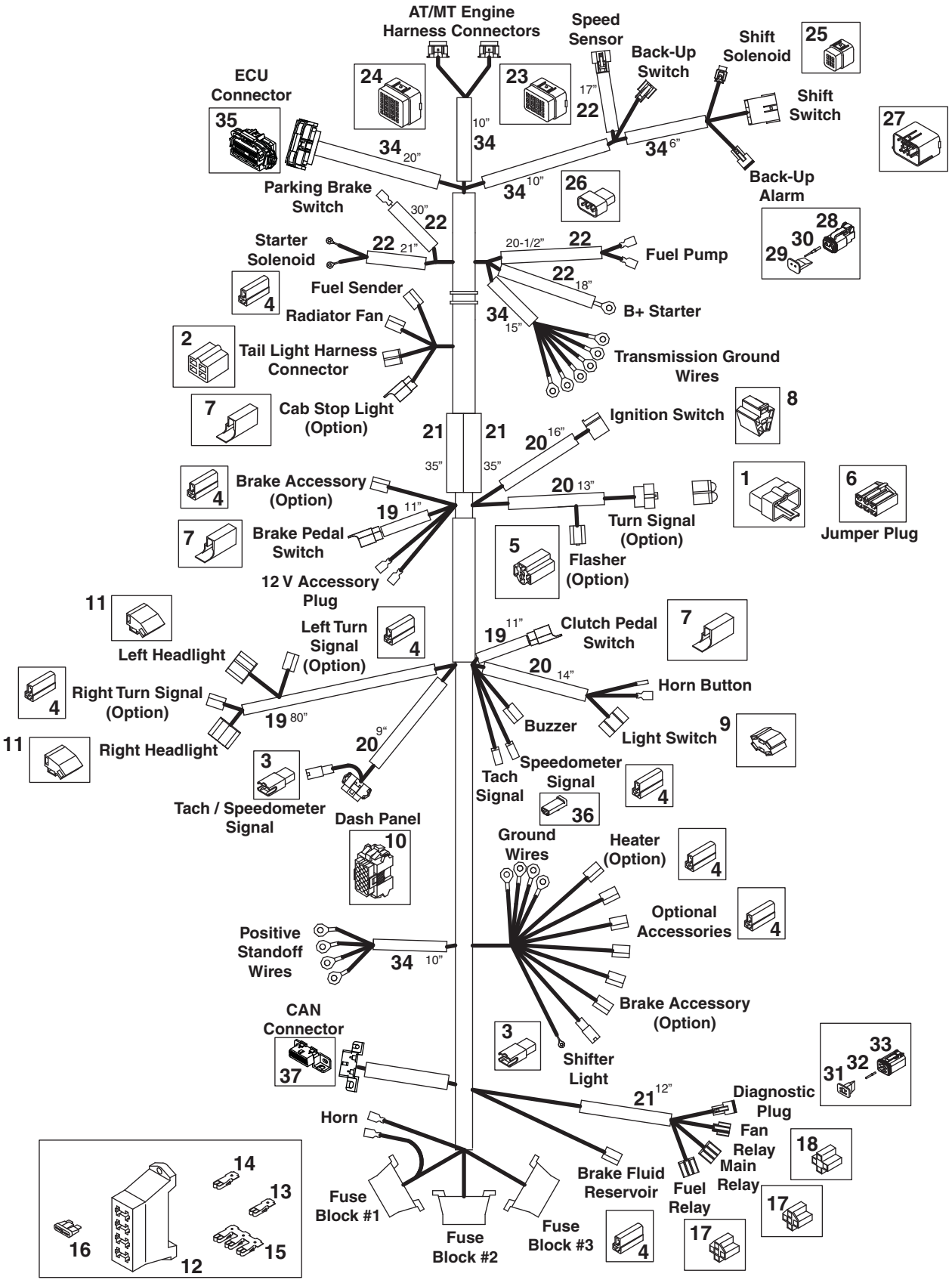
Item	Part No.	Qty.	Description	Serial Numbers/Notes
	4174321	1	Engine Harness	
1	825877	2	• Connector, Six Female Terminal	
	825748	AR	• Terminal, 1/4 in. Fem. 14-16 Gauge	Single Wire
	825878	AR	• Terminal, 1/4 in. Fem. 10 Gauge	Two Wire
2	829630	1	• Connector, Four Male Terminal	
	825961	AR	• Terminal, 1/4 in. Male 10 Gauge	Two Wire
3	884398	3	• Diode Connector Assembly	
4	826005	6	• Connector, Two Female Terminal	
	825748	AR	• Terminal, 1/4 in. Fem. 14-16 Gauge	Single Wire
	825878	AR	• Terminal, 1/4 in. Fem. 10 Gauge	Two Wire
5	843168	1	• Connector, Relay	
	842966	AR	• Terminal, Female Relay	
6	843167	1	• Relay, 12V 15 Amp DPST	
7	558019	1	• Resistor Plug	
8	2700868	1	• Connector, 70 Amp Relay	
	842966	AR	• Terminal, Female Relay	
	2700869	AR	• Terminal, 3/8 in. Female Relay	
9	842959	1	• Connector, 2 Contact	
	833257	2	• Terminal, 3/32 in. Female	
	838463	2	• Seal, Wire	
10	NS	2	• Block, Maxi Fuse	
11		1	• Fuse, 50 Amp Maxi Fuse	
12	4113261	1	• Fuse, 25 Amp	
13	4221100	1	• Relay, 12V, 70 Amp SPST	
	4179801	1	Radiator Fan Harness	
14	836536	1	• Fuse, 40 Amp	
15	826006	1	• Connector, Two Male Terminal	
	825886	AR	• Terminal, 1/4 in. Male 14-16 Gauge	
16	2700868	1	• Connector, 70 Amp Relay	
	842966	AR	• Terminal, Female Relay	
	2700869	AR	• Terminal, 3/8 in. Female Relay	
17	4221100	1	• Relay, 12V, 70 Amp SPST	
18	826254	2	• Block, Single Fuse	
	825997	AR	• Fuse Clip, 1 Term., 14-16 Gauge	
	826193	7-1/2”	• Tubing, 7/16 in. I.D. Green	25 Foot Bulk
	4179800	1	Oil Cooler Fan Harness	Includes Items 15~18
19	826005	1	• Connector, Two Female Terminal	
	825748	AR	• Terminal, 1/4 in. Fem. 14-16 Gauge	
	826193	58”	• Tubing, 7/16 in. I.D. Green	25 Foot Bulk
20	842983	1	• Fuse, 15 Amp	

> Change from previous revision

56.1 Gas Main Harness

Part Number 4238042

Serial No. 84067 - All
Serial No. 84068 - All
Serial No. 84069 - All

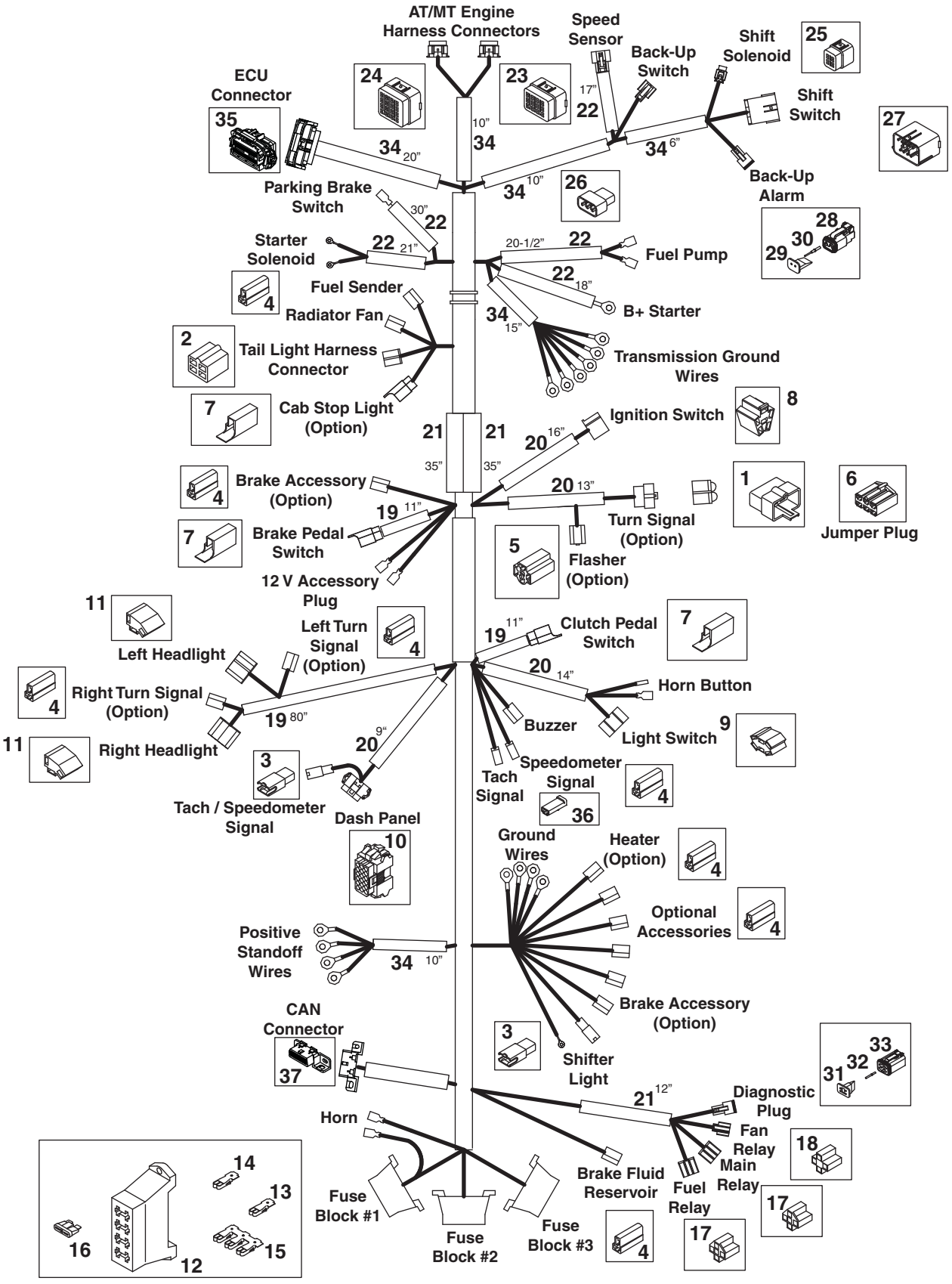


Item	Part No.	Qty.	Description	Serial Number / Notes
1	825973	1	Connecter, Six Male Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	Single Wire
	825961	AR	Terminal, 1/4 in. Male 10 Gauge	Two Wire
2	829631	1	Connector, Four Female Terminal	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/ in. Female 10 Gauge	Two Wire
3	826726	2	Connector, One Female Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	
4	826005	12	Connector, Two Female Terminal	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
5	825894	1	Connector, Flasher	
	825889	AR	Terminal, 5/16 in. Female 14-16 Gauge	
6	2700913	1	Jumper Plug, Taillight	
	825877	1	• Connector, Six Female Terminal	
	825748	AR	• Terminal, 1/4 in. Female 14 Gauge	Single Wire
	825878	AR	• Terminal, 1/4 in. Female 10 Gauge	Two Wire
7	826006	3	Connector, Two Male Terminal	
	825886	AR	Terminal, 1/4 in. Male 14-16 Gauge	
8	837296	1	Connector, Ignition Switch	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
9	843598	1	Connector, Rocker Switch	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	Single Wire
	825878	AR	Terminal, 1/4 in. Female 10 Gauge	Two Wire
10	843550	1	Connector, Eighteen Terminal	
	843551	AR	Terminal	
11	837301	2	Connector, Headlight	
	825889	AR	Terminal, 5/16 in. Female 14-16 Gauge	One Wire
	828629	AR	Terminal, 5/16 in. Female 14-16 Gauge	Two Wire
12	825996	3	Fuse Holder	
13	825997	12	Fuse Clip, 1 Term., 14-16 Gauge	
14	825998	6	Fuse Clip, 1 Term, 10 Gauge	
15	825999	2	Fuse Clip, 3 Term. 14-16 Gauge	
16	836892	7	Fuse, 10 Amp	
16	842983	3	Fuse, 15 Amp	
16	826000	1	Fuse, 20 Amp	
16	4113261	1	Fuse, 25 Amp	
17	843168	2	Connector, 15 Amp Relay	
	842966	8	Terminal, Female Relay	
18	2700868	1	Connector, 70 Amp Relay	
	842966	2	Terminal, 1/4 in. Female Relay	
	2700869	2	Terminal, 3/8 in. Female Relay	
19	826190	AR	Tubing, 3/8 in. I.D. Black Convoluted	50 Foot Bulk
20	826191	AR	Tubing, 1/2 in. I.D. Black Convoluted	25 Foot Bulk

56.1 Gas Main Harness (Continued)

Part Number 4238042

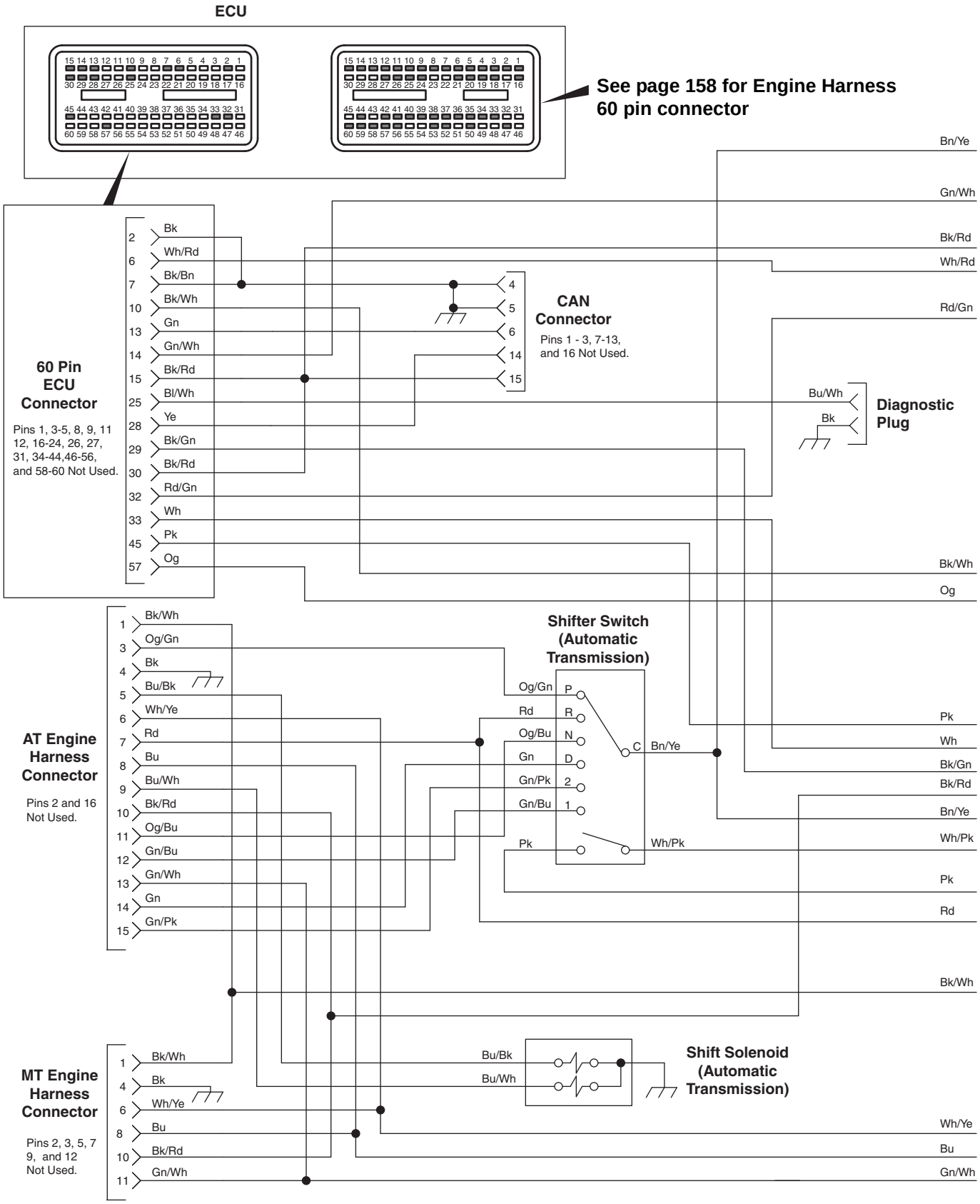
Serial No. 84067 - All
Serial No. 84068 - All
Serial No. 84069 - All

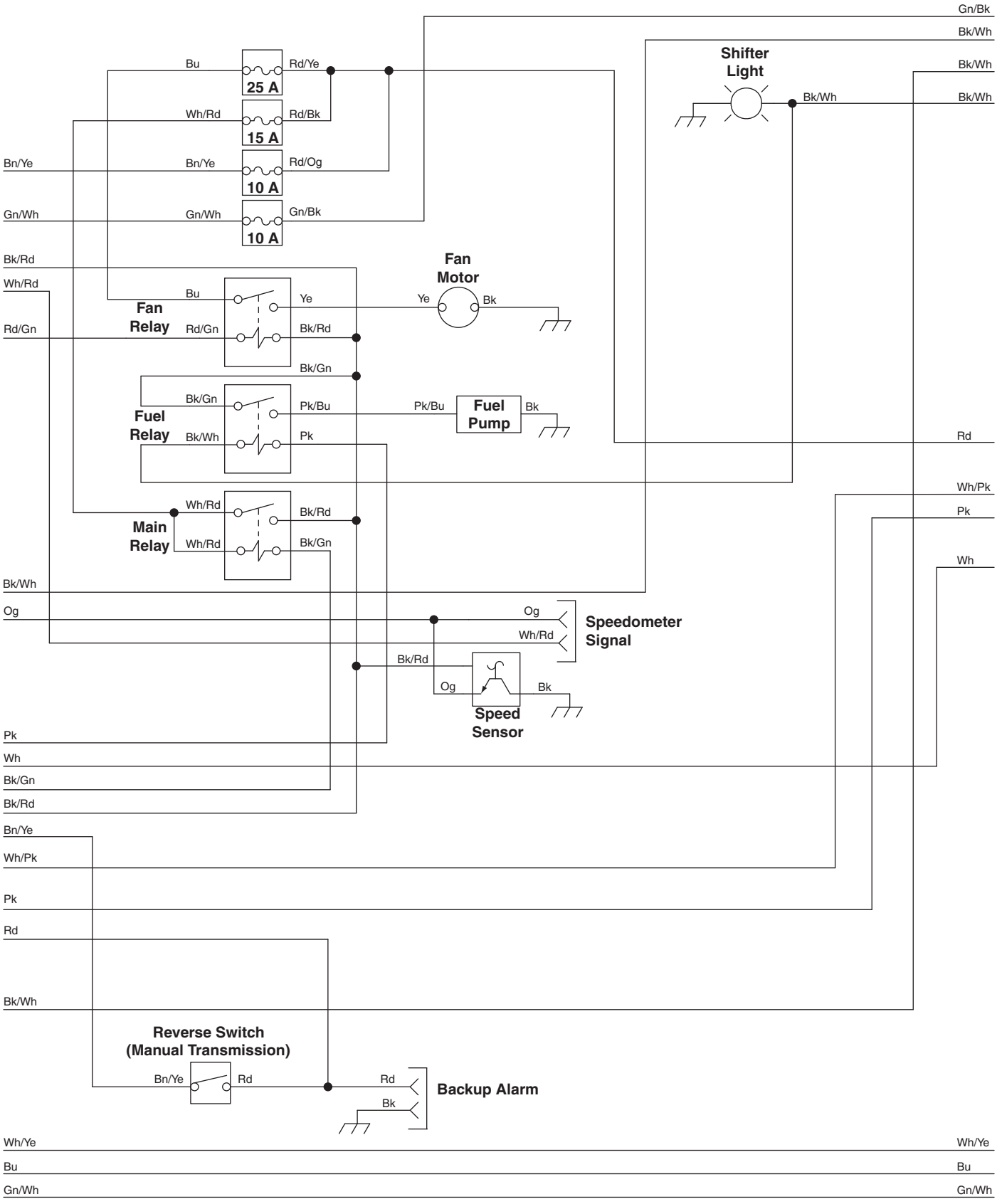


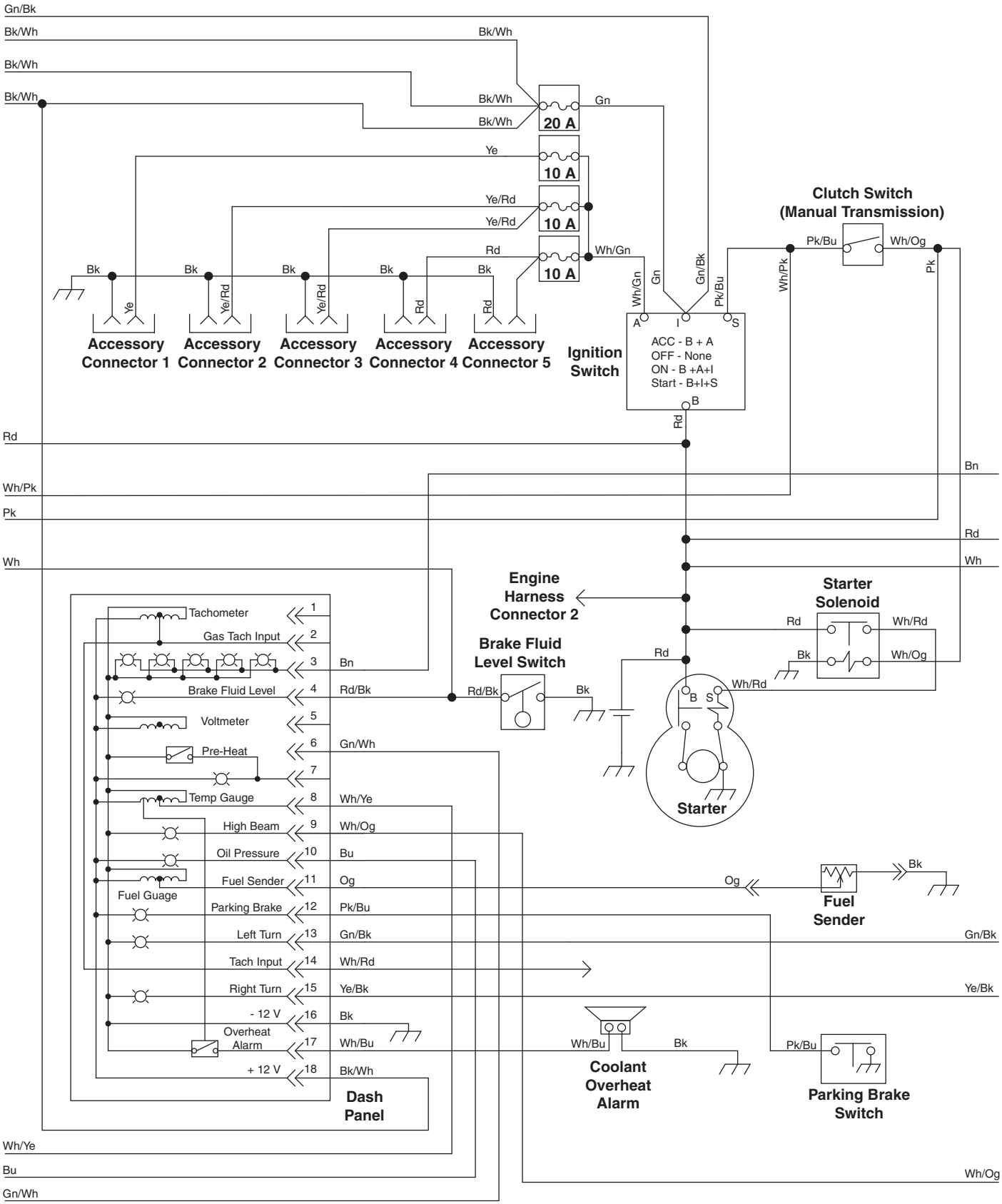
Item	Part No.	Qty.	Description	Serial Number / Notes
21	826192	AR	Tubing, 3/4 in. I.D. Black Convoluted	25 Foot Bulk
22	826193	AR	Tubing, 7/16 in. I.D. Green Convoluted	25 Foot Bulk
23	N/S	1	Connector, 12 Contact Male	MT Engine Harness Connector
	833257	6	Terminal, Female	
	838463	6	Seal, Wire	
	2700933	6	Plug, Cavity	
24	N/S	1	Connector, 16 Contact Male	AT Engine Harness Connector
	833257	14	Terminal, Female	
	838463	14	Seal, Wire	
	2700933	2	Plug, Cavity	
	4118039	7	Plug, ECU Connector	
25	845330	1	Connector, 4 Contact Male	
	833257	4	Terminal, Female	
	838463	4	Seal, Wire	
26	845327	1	Connector, 3 Contact Female	
	2700380	3	Terminal	
	2700381	3	Seal, Wire	
27	845328	1	Connector, 9 Contact Female	
	2700385	2	Terminal	
	2700387	2	Seal, Wire	
	2700384	7	Terminal	
	2700386	7	Seal, Wire	
28	839917	1	Plug, 2 Wire Deutsch	
29	839921	1	Lock, 2 Wire Deustch	
30	524358	2	Terminal, 18-20 AWG Male Pin	
31	838768	2	Lock, 4 Wire Deutsch	
32	838769	4	Terminal, 18-20 AWG Socket	
33	838770	2	Plug, 4 Wire Deutsch	
34	4245130	AR	Turbing, 1/2 in. I.D. Green Convoluted	30 Inch Length
35	N/S	1	Connector, 60 Contact	
36	825880	2	Connector, One Male Terminal	
	825748	AR	Terminal, 1/4 in. Female 14-16 Gauge	
37	N/S	1	CAN Connector	

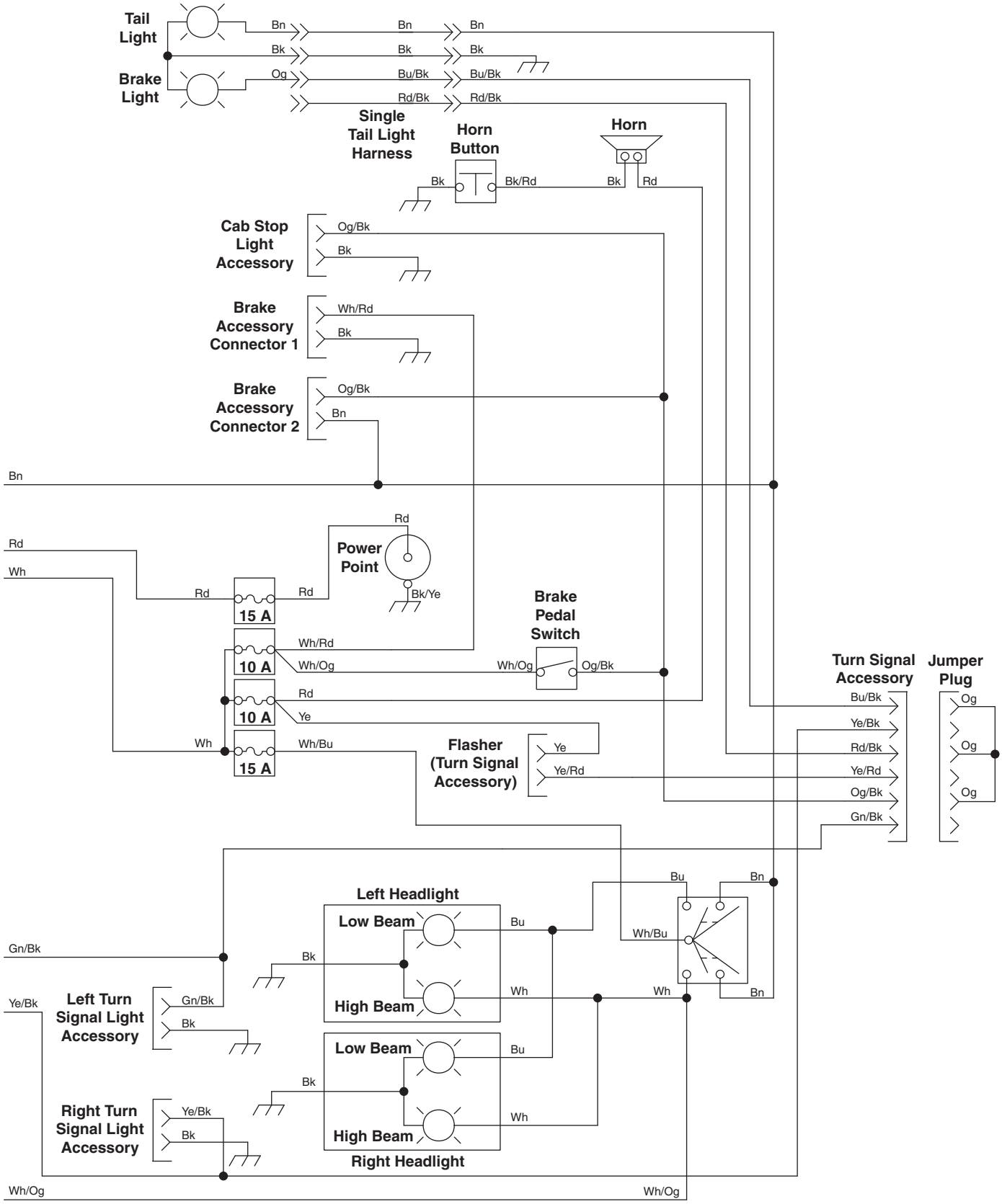
57.1 Gas Engine Electrical Schematic

Serial No. 84067 All
Serial No. 84068 All
Serial No. 84069 All

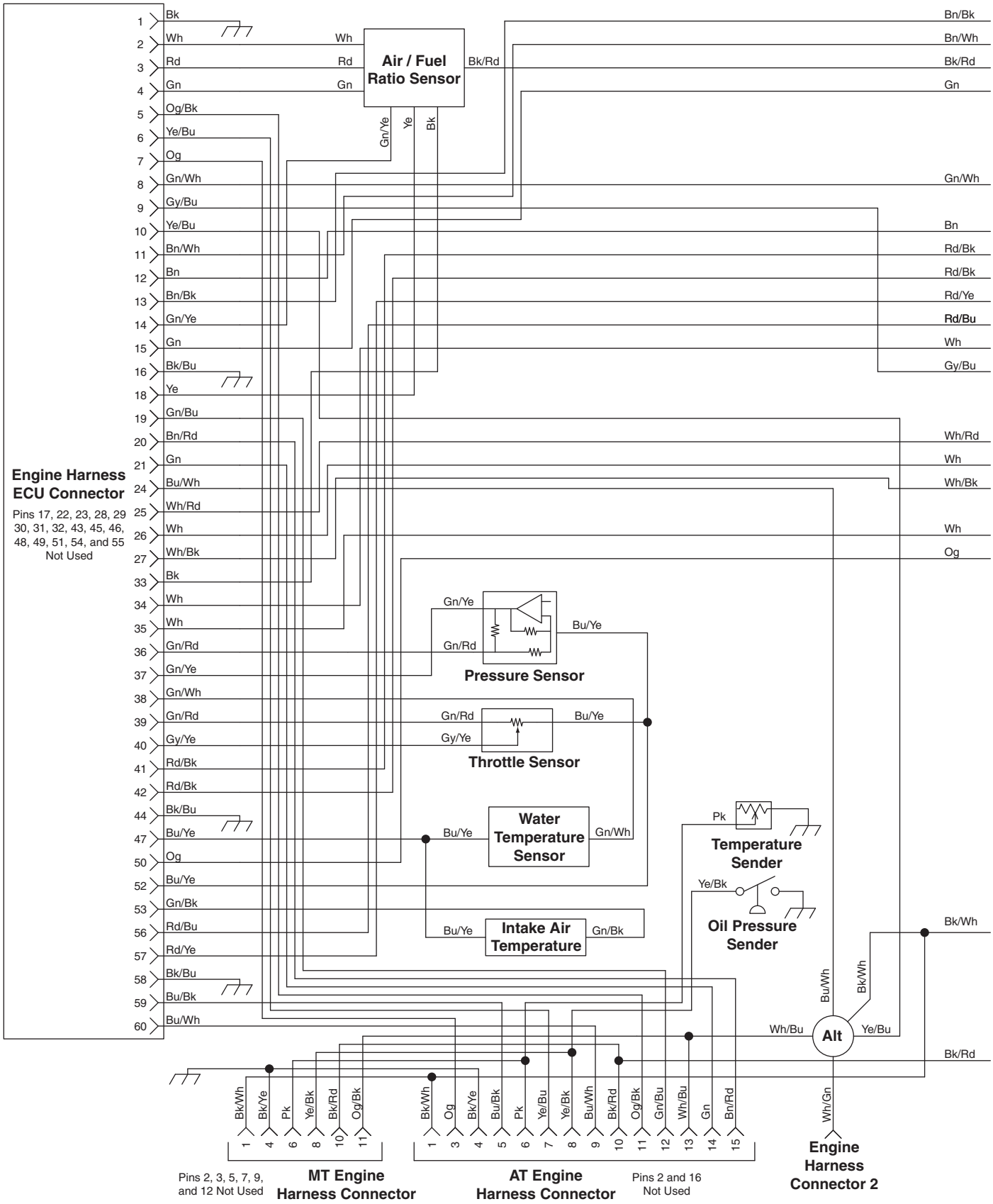


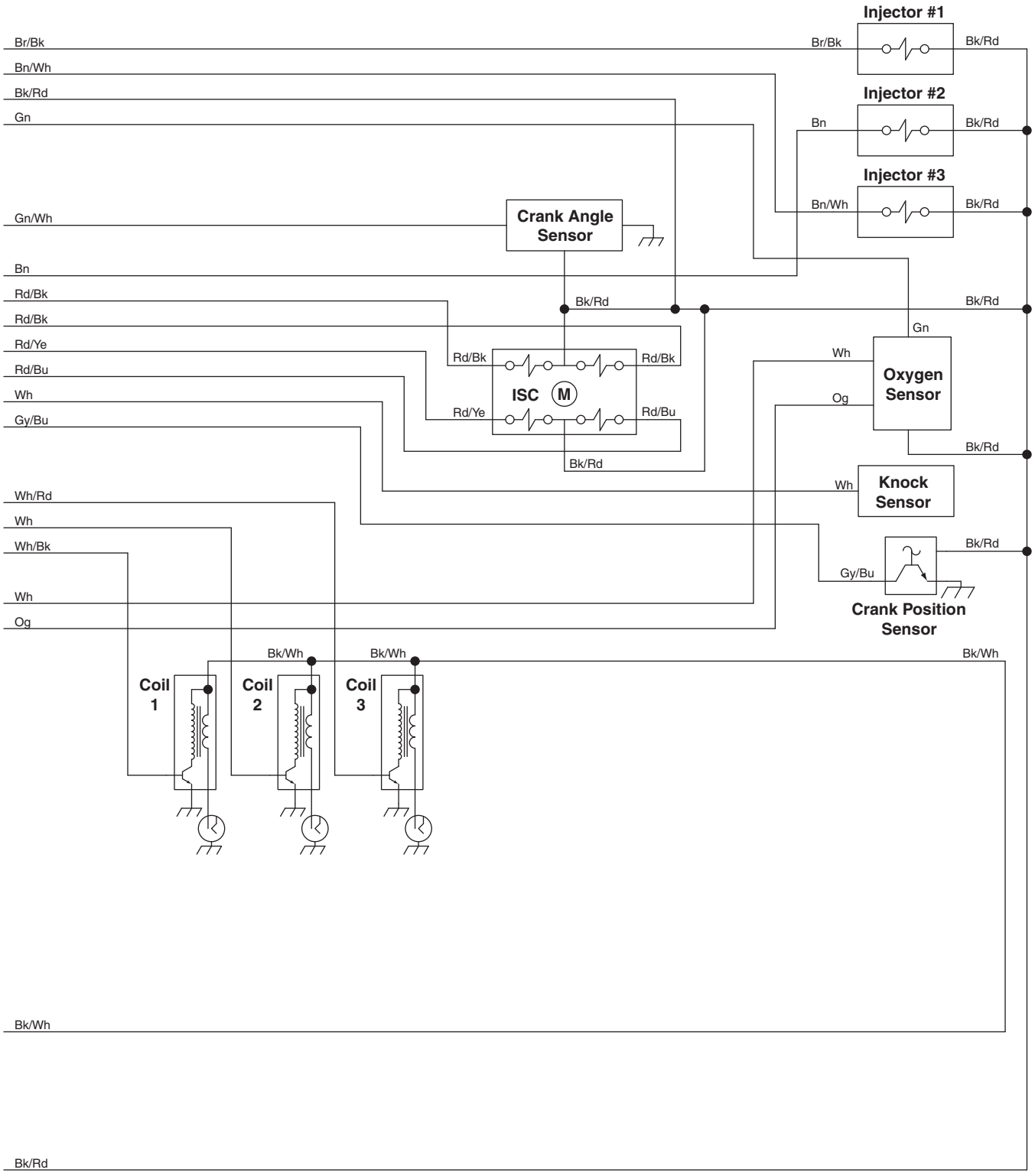

Gn/Bk
Bk/Wh
Shifter Light
Bk/Wh
Bk/Wh
Bk/Wh
Bu
Rd/Ye
25 A
Wh/Rd
Rd/Bk
15 A
Bn/Ye
Bn/Ye
Rd/Og
10 A
Gn/Wh
Gn/Wh
Gn/Bk
10 A
Bk/Rd
Wh/Rd
Fan Motor
Bu
Ye
Ye
Bk
Fan Relay
Rd/Gn
Rd/Gn
Bk/Rd
Bk/Gn
Bk/Gn
Pk/Bu
Pk/Bu
Fuel Pump
Bk
Fuel Relay
Bk/Wh
Pk
Rd
Wh/Pk
Wh/Rd
Bk/Rd
Pk
Main Relay
Wh/Rd
Bk/Gn
Wh
Bk/Wh
Og
Og
Speedometer Signal
Wh/Rd
Bk/Rd
Og
Bk
Speed Sensor
Pk
Wh
Bk/Gn
Bk/Rd
Bn/Ye
Wh/Pk
Pk
Rd
Bk/Wh
Reverse Switch (Manual Transmission)
Bn/Ye
Rd
Rd
Bk
Backup Alarm
Wh/Ye
Wh/Ye
Bu
Bu
Gn/Wh
Gn/Wh


Gn/Bk
Bk/Wh
Bk/Wh
Bk/Wh
Bk/Wh
Bk/Wh
20 A
Gn
Ye
10 A
Ye/Rd
Ye/Rd
10 A
Rd
Wh/Gn
10 A
Bk
Ye
Ye/Rd
Rd
Accessory Connector 1
Accessory Connector 2
Accessory Connector 3
Accessory Connector 4
Accessory Connector 5
Wh/Gn
Gn
Gn/Bk
Pk/Bu
A
I
S
Ignition Switch
ACC - B + A
OFF - None
ON - B +A+I
Start - B+I+S
B
Rd
Clutch Switch (Manual Transmission)
Pk/Bu
Wh/Og
Wh/Pk
Pk
Rd
Wh
Bn
Wh/Pk
Pk
Rd
Wh
Engine Harness Connector 2
Starter Solenoid
Rd
Wh/Rd
Bk
Wh/Og
Brake Fluid Level Switch
Rd/Bk
Bk
Rd
Wh/Rd
B
S
Starter
Tachometer
Gas Tach Input
Brake Fluid Level
Voltmeter
Pre-Heat
Temp Gauge
High Beam
Oil Pressure
Fuel Sender
Fuel Guage
Parking Brake
Left Turn
Tach Input
Right Turn
- 12 V
Overheat Alarm
+ 12 V
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Bn
Rd/Bk
Gn/Wh
Wh/Ye
Wh/Og
Bu
Og
Pk/Bu
Gn/Bk
Wh/Rd
Ye/Bk
Bk
Wh/Bu
Bk/Wh
Dash Panel
Og
Bk
Fuel Sender
Gn/Bk
Ye/Bk
Wh/Bu
Bk
Coolant Overheat Alarm
Pk/Bu
Parking Brake Switch
Wh/Ye
Bu
Gn/Wh
Wh/Og


Tail Light
Brake Light
Bn
Bk
Og
Bn
Bk
Bu/Bk
Rd/Bk
Bn
Bk
Bu/Bk
Rd/Bk
Single Tail Light Harness
Horn Button
Bk
Bk/Rd
Horn
Bk
Rd
Cab Stop Light Accessory
Og/Bk
Bk
Brake Accessory Connector 1
Wh/Rd
Bk
Brake Accessory Connector 2
Og/Bk
Bn
Bn
Rd
Power Point
Bk/Ye
Rd
Wh
Rd
Rd
15 A
10 A
10 A
15 A
Wh/Rd
Wh/Og
Rd
Ye
Wh/Bu
Brake Pedal Switch
Wh/Og
Og/Bk
Flasher (Turn Signal Accessory)
Ye
Ye/Rd
Turn Signal Accessory
Jumper Plug
Bu/Bk
Ye/Bk
Rd/Bk
Ye/Rd
Og/Bk
Gn/Bk
Og
Og
Og
Left Headlight
Low Beam
High Beam
Right Headlight
Low Beam
High Beam
Bu
Bn
Wh/Bu
Bk
Wh
Wh
Bn
Bu
Bk
Wh
Gn/Bk
Ye/Bk
Left Turn Signal Light Accessory
Gn/Bk
Bk
Right Turn Signal Light Accessory
Ye/Bk
Bk
Wh/Og
Wh/Og

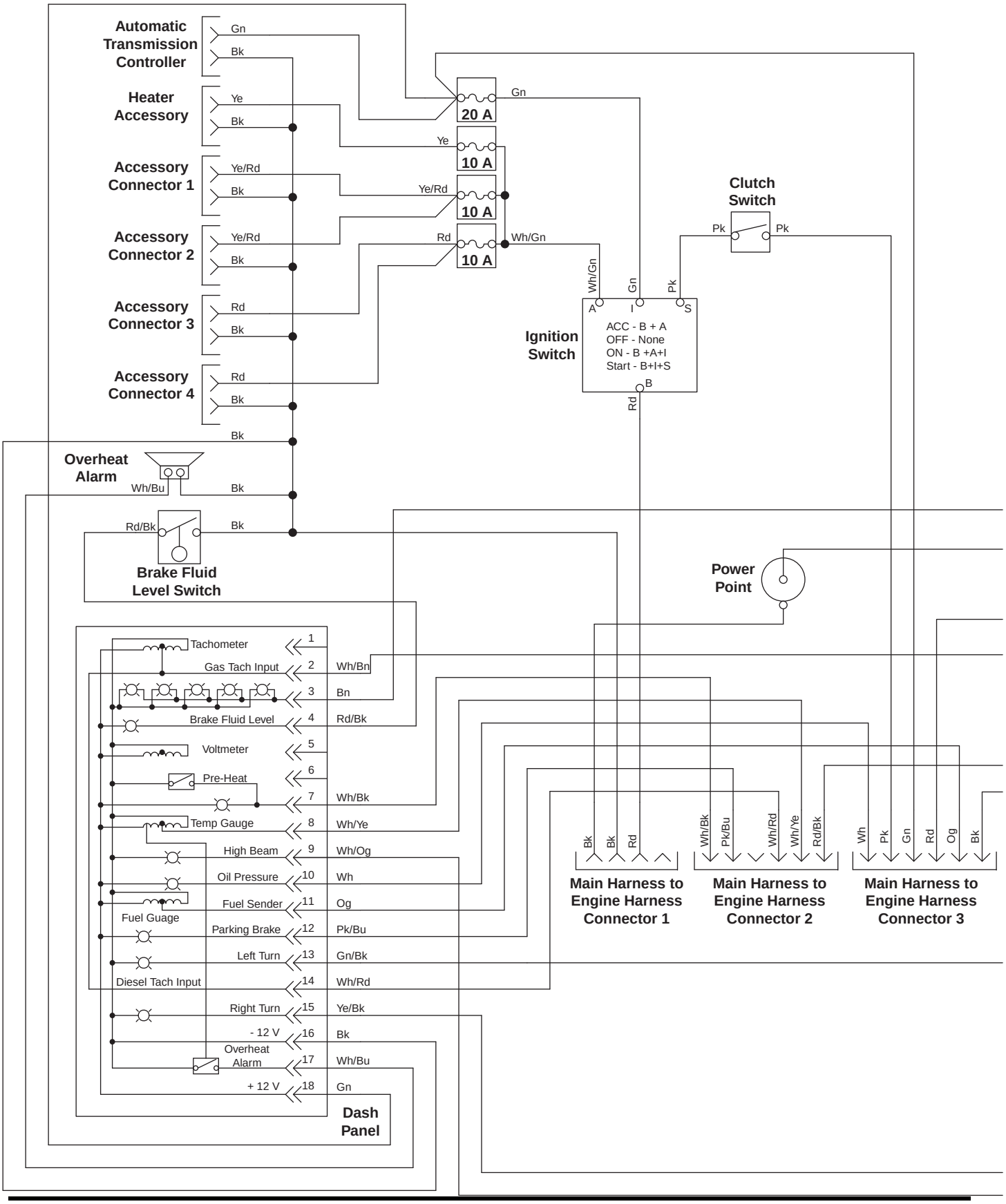
58.1 Gas Engine Schematic

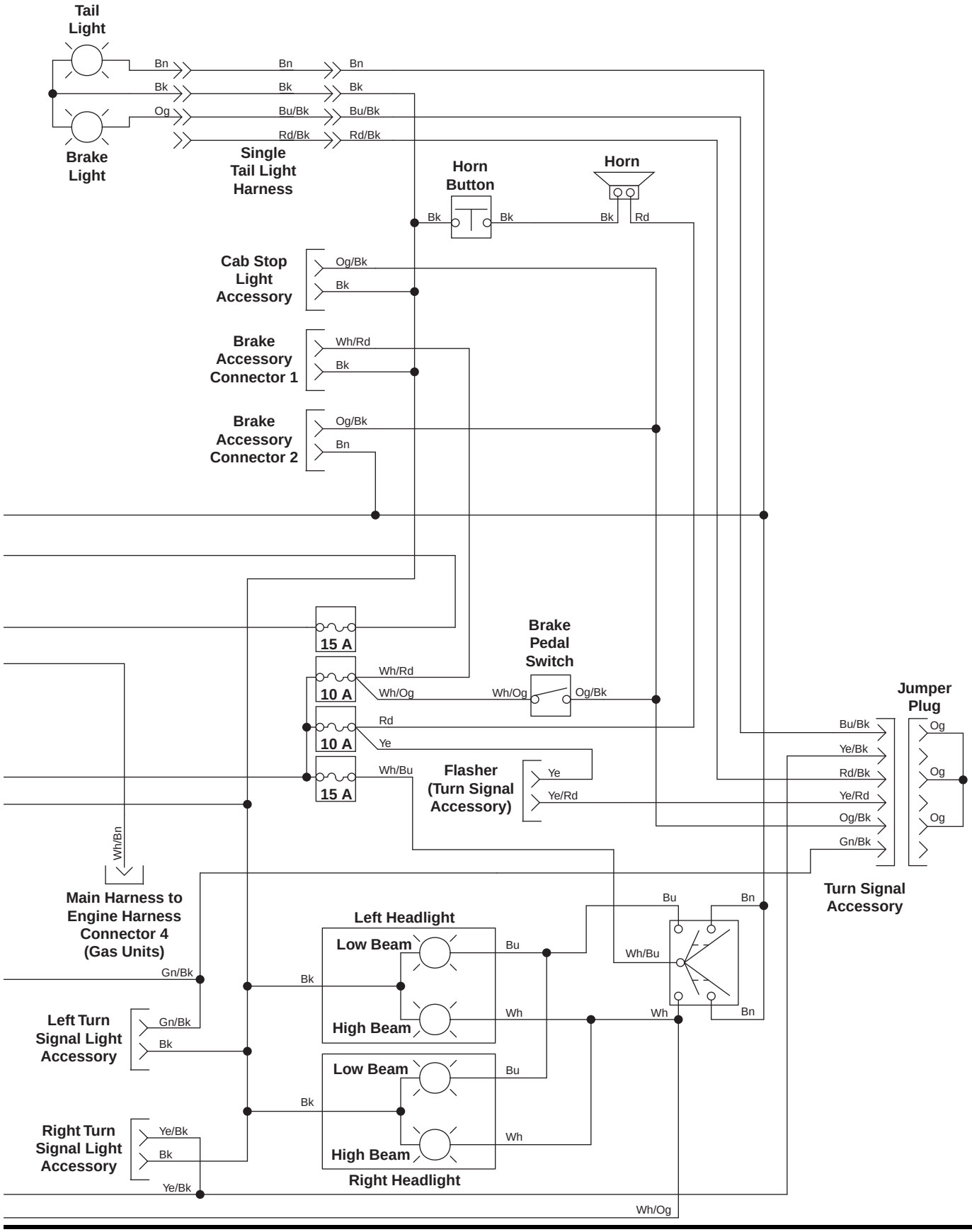

Engine Harness ECU Connector
Pins 17, 22, 23, 28, 29 30, 31, 32, 43, 45, 46, 48, 49, 51, 54, and 55 Not Used
Air / Fuel Ratio Sensor
Pressure Sensor
Throttle Sensor
Water Temperature Sensor
Intake Air Temperature
Temperature Sender
Oil Pressure Sender
Alt
MT Engine Harness Connector
Pins 2, 3, 5, 7, 9, and 12 Not Used
AT Engine Harness Connector
Pins 2 and 16 Not Used
Engine Harness Connector 2

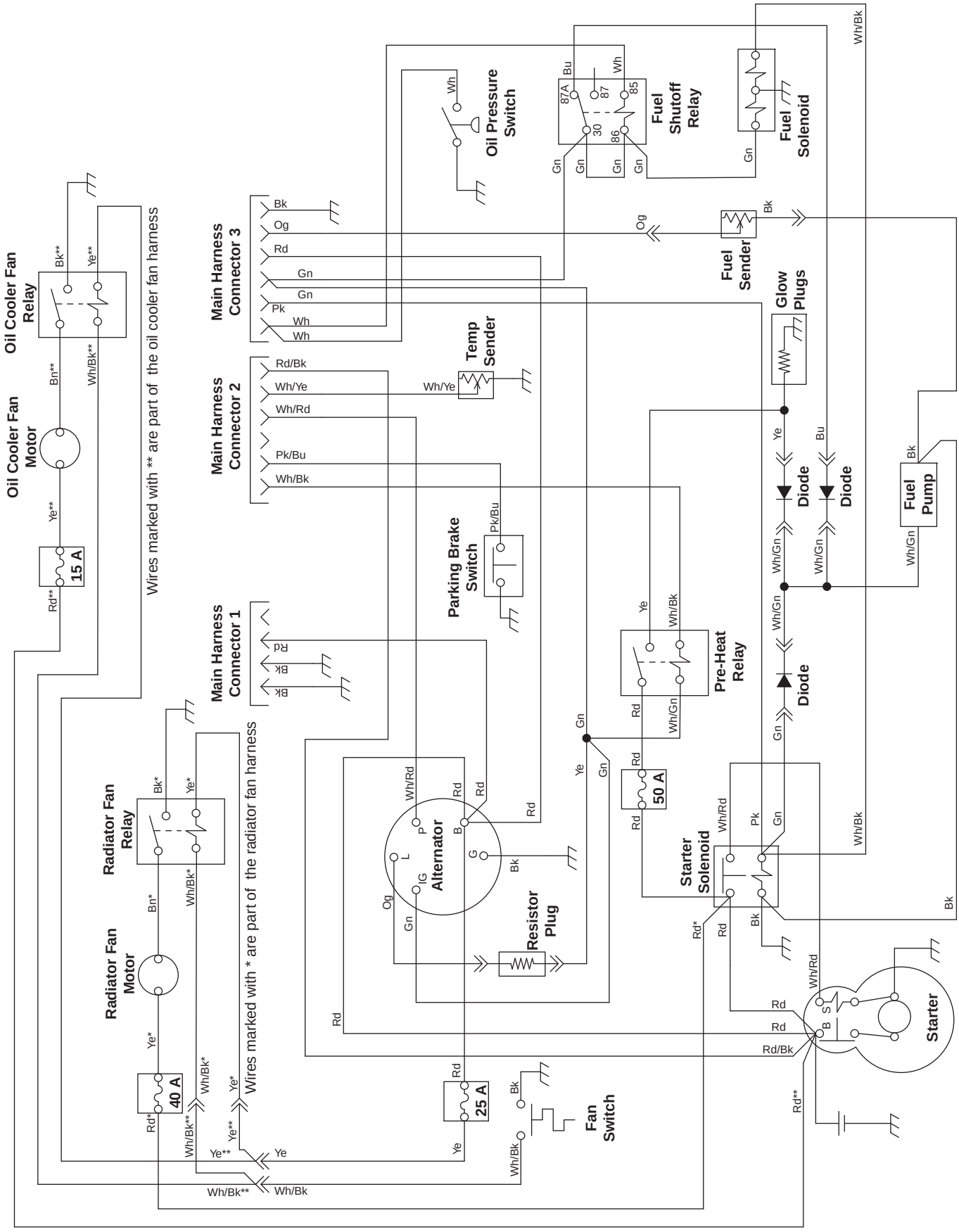

Injector #1
Injector #2
Injector #3
Br/Bk
Bn/Wh
Bk/Rd
Gn
Bn
Gn/Wh
Crank Angle Sensor
Rd/Bk
Rd/Ye
Rd/Bu
Wh
Gy/Bu
ISC
M
Oxygen Sensor
Og
Knock Sensor
Wh/Rd
Wh/Bk
Crank Position Sensor
Coil 1
Coil 2
Coil 3
Bk/Wh

59.1 Diesel Engine Electrical Schematic

Serial No. 84063 All
Serial No. 84064 All




Tail Light
Brake Light
Bn
Bk
Og
Bn
Bk
Bu/Bk
Rd/Bk
Bn
Bk
Bu/Bk
Rd/Bk
Single Tail Light Harness
Horn Button
Horn
Bk
Bk
Bk
Rd
Cab Stop Light Accessory
Og/Bk
Bk
Brake Accessory Connector 1
Wh/Rd
Bk
Brake Accessory Connector 2
Og/Bk
Bn
15 A
10 A
10 A
15 A
Wh/Rd
Wh/Og
Rd
Ye
Wh/Bu
Brake Pedal Switch
Wh/Og
Og/Bk
Flasher (Turn Signal Accessory)
Ye
Ye/Rd
Jumper Plug
Bu/Bk
Ye/Bk
Rd/Bk
Ye/Rd
Og/Bk
Gn/Bk
Og
Og
Og
Turn Signal Accessory
Wh/Bn
Main Harness to Engine Harness Connector 4 (Gas Units)
Gn/Bk
Left Turn Signal Light Accessory
Gn/Bk
Bk
Right Turn Signal Light Accessory
Ye/Bk
Bk
Ye/Bk
Left Headlight
Low Beam
High Beam
Bk
Bu
Wh
Low Beam
High Beam
Bk
Bu
Wh
Right Headlight
Bu
Bn
Wh/Bu
Wh
Bn
Wh/Og


Oil Cooler Fan Relay
Oil Cooler Fan Motor
15 A
Wires marked with ** are part of the oil cooler fan harness
Radiator Fan Relay
Radiator Fan Motor
40 A
Wires marked with * are part of the radiator fan harness
Main Harness Connector 1
Main Harness Connector 2
Main Harness Connector 3
Temp Sender
Oil Pressure Switch
Parking Brake Switch
Alternator
Resistor Plug
25 A
Fan Switch
50 A
Pre-Heat Relay
Starter Solenoid
Starter
Fuel Shutoff Relay
Fuel Solenoid
Fuel Sender
Glow Plugs
Diode
Diode
Diode
Fuel Pump

00414-G5 105
009034880 ..... 81, 83
01116-G01 103
01421-08303 139
01550-08353 59
01550-08553 137
06111-06003 141
06111-12004 143
08310-00103 85
09103-08152 139
09111-08035 ..... 91, 93
09128-10002 143
09135-08005 143
09160-17035 143
09162-08008 143
09166-16014 145
09166-30007 141
09168-10007 143
09205-03019 137
09205-05012 143
09246-16010 145
09250-10006 143
09261-03017 143
09262-28019 139
09262-28020 139
09262-30086 141
09263-30031 141
09263-35015 141
09280-11002 137
09283-25088 139
09284-17004 143
09286-09001 143
09300-14017 137
09300-30003 141
09380-28007 ..... 139, 141
09390-62010 139
09390-68002 139
09448-20007 137
10386753, 57, 59, 61, 64, .. 91, 93, 97, 101, 103, ... 109, 111, 115, ... 129, 133
111074 ..... 129, 133
111758 129
111812 105
111813 105
111814 105
111817 105
111838 79
111893 103
111898 ..... 51, 97, 105
112050 127
112840 105
11391G4 83
11391G7 ..... 99, 107
11710-77100 85
11741-85200 ..... 85, 137
120052 .51, 97, 105, 111, 115, ... 123, 125
120166 145
120177 ....85, 91, 93, 101
130728 ..... 97, 103, 105
160410 105
17680-50F70 81
18292-G1 113
22100-85200 ..... 91, 93
22400-85141 ..... 91, 93
23260-85203 137
23265-85200 137
23266-85002 59
24110-80410 141
24121-85252 141
24131-83002 139
24211-83011 141
24220-60A01 141
24400-83002 141
24410-83000 141
24420-83000 141
24431-83001 141
24432-83001 141
24436-83000 141
24471-60A00 141
24473-70D10 141
24671-83000 139
24700-85200 139
24741-83001 139
24821-09001 143
2500917 ..... 91, 93
25411-85201 143
25415-83000 143
25420-85201 143
25451-85261 143
25520-85203 143
25530-79501 143
25535-85412 143
25536-84200 143
25541-85201 143
25545-85055 143
25546-60C01 143
25547-70D00 143
25576-70D00 143
26121-85202 141
2700120 145
2700121 145
2700166 113
2700177 113
2700334 103
2700335 103
2700380 153
2700381 153
2700384 153
2700385 153
2700386 153
2700387 153
2700453 79
2700493 133
2700496 ....51, 61, 63, 64
2700514 131
2700515 131
2700525 105
2700530 131
2700531 131
2700540 103
2700757 ..... 59, 125
2700792 43
2700796 53
2700797 53
2700800 117
2700801 117
2700859 103
2700868 ..... 149, 151
2700869 ..... 149, 151
2700913 151
2700933 153
2701107.7 117
2701129 103
2701223 45
2701253 ..... 77, 131
2701273 63
2701371 63
2701408 131
2701442 83
2701465 ..... 123, 125
2701513 83
2701658 ..... 123, 125
2701693.7 ..... 69, 113
2701697.7 ..... 69, 87, 89
2701737.7 57
2701850.7 51
2701897 113
2701898 113
2701953 143
2702012 51
2702014 51
2702198 43
2702199 45
2702217 77
2702244 .....55, 103, 123, 125
2702247 77
2702257.7 77
2702470 ..... 87, 89, 139
2702471 139
2702475 137
2702484 107
2702489 107
2702494 143
2702500 109
2702501 109
2702502 109
2702534.7 131
2702535.7 131
2702547 87
2702548 87
2702559 141
2702561 141
2702659 ..... 137, 139
2702662 139
2702665 139
2702683 139
2702684 137
2702686 ..... 87, 89
2702687 87
2702688 ..... 87, 89
2702689 ..... 87, 89
2702690 ..... 87, 89, 139
2702695 61
2702696 63
2702756 89
2702883 143
2702996 61
2703002 59
2703081 77
2703158 43
2703257.7 51
2703294.7 69
2703309 131
2703453 141
2703454 143
2703481 131
2703580 141
2703581 141
2703582 143
2703683 ..... 51, 97
2703684 ..... 51, 103
2703699 143
2703707 61
2703931.7 ..... 61, 63
2703951 ..... 61, 63
2703953 61
2703956.7 61
2703961 69
2703964.7 ..... 61, 63
28391-85202 139
29165G01 51
3001025 119
3001388 99
3001965 99
300646 ..... 99, 107, 117
300977 ..... 61, 63
301988 145
302030 64
302288 ..... 45, 103, 105
302944 75

303269..... 75, 85, 91, 93, 101
303952.....43
304636..... 75, 77, 131
305134.....75
306320.....103
306322.....133
306325. 91, 93, 101, 103, 109, ...123, 125
30632845, 51, 53, 55, 57, ...59
306372.....103
306375..... 64, 103, 105
306388.....53
306396..... 61, 63, 64, 99, 103, ...105, 107, 109, ...123
306397.....61, 63
306405.....131
306416.....129
306419 43, 109, 123, 125
306423.....133
306435.....133
306450.....101
306463.....43, 53
306488..... 43, 123, 125
306506.....105
306531.....51
306555.....109
306562..... 85, 91, 93
306799.....79
306825.....75
306829.....129
306834.....53
306835.....91, 93
306836.....85
306839.....73
306891.....85
306915.....105
306981.. 91, 93, 103, 108
306982.....129
307776.....133
308008.....75
308089.....53, 103
308090..... 45, 61, 63, 99, 103, ...105, 107, 117
308091.....61, 63
309067.....69, 113
309488.....45
311392.....75
311396.....71
311398.....71
311763.....61, 63
312288.....67
316907.....53
316942.....145
320107.. 55, 79, 119, 121
359864.....105
360111..... 67, 71
36092-G01.....99
361005..... 91, 93
361117..... 111, 115
37610-80043.....137
38061A 43
38541.....43
400108.....85
400184..... 81, 83, 99
400188.....113
409804.....125
4113019.....113
4113020.....113
4113022.....111
4113261..... 149, 151
4113986..... 91, 93, 101
4114867.....105
4115033.....83
4115400.....83
4115584.....105
4116017.....125
4117092..... 91, 93
4117153.7... 67, 111, 115
4117221.....43
4117900.....87
4118027.....107
4118039.....153
4118422.....107
4118423.....107
4118760.....119
4119000.....141
4119866.8.....101
4119867.8.....101
4119955.....89
4120076.....83
4120096.....89
4120097.....89
4120098.....89
4120138.....73
4124567.....121
4124568.....121
4138391.....87
4139208.....103
4139209.....103
4139210.....103
4139211.....107
4139442.....83
4139691.....43
4139724.....45
4139939.....45
4139967.....111
4140067.....71
4140069.....71
4140071..... 71
4140072..... 71
4140075..... 71
4140090..... 81, 83
4140269..... 47, 49
4140431..... 63
4140617..... 107
4140618..... 107
4140899..... 87
4141031..... 103
4141037..... 141
4141425..... 105
4142627..... 63
4142630..... 63
4142772..... 87
4142796..... 63
4144334..... 71
4144345..... 71
4146818..... 63
4146819..... 63
4147584..... 45
4147586..... 45
4148065..... 89
4148082..... 87
4148150..... 83
4148206..... 83
4148212..... 89
4148213..... 89
4148360..... 87
4148361..... 89
4149901..... 95
4150138..... 95
4150957..... 105
4154081..... 125
4154480..... 59
4154481..... 59
4158740..... 43
4158741..... 43
4158742..... 43
4166840..... 115
4166841..... 115
4166842..... 115
4168131..... 115
4168143..... 113
4170802..... 113
4170840..... 115
4171761..... 131
4173062..... 85
4173201..... 91, 93
4173262..... 91, 93
4173980..... 91, 93
4174200..... 91, 93
4174260..... 91, 93
4174281..... 85
4174282..... 91, 93
4174285..... 85, 99, 111
4174286..... 85, 101
4174287..... 71
4174288..... 71
4174290..... 101
4174321..... 81, 149
4174440..... 91
4174560..... 101
4174563..... 81
4174620..... 99
4174660..... 81
4174662..... 97
4174720..... 97
4174820..... 81
4175021..... 97
4175340..... 49
4175401..... 67
4175402..... 81, 83
4175560..... 91, 93
4175561..... 101
4175562..... 101
4175620..... 101
4176248..... 113
4176887..... 81
4176960..... 101
4177253..... 81
4177560..... 101
4179800..... 81, 149
4179801..... 81, 149
4179802..... 111
4179803..... 69, 87, 89
4179842..... 101
4180501..... 113
4180601..... 111, 115
4183301..... 123, 125
4183302..... 125
4183303..... 123, 125
4183304..... 125
4183623..... 91, 93
4183634..... 101
4184320..... 49
4184900..... 135
4184901..... 135
4185240..... 101
4185540..... 69, 111
4186780..... 91, 93
4186900..... 135
4188387..... 95, 108
4189960..... 105
4190700..... 101
4190701..... 101
4191140..... 85, 101
4192125..... 85
4194420..... 57
4194421..... 57
4194500..... 57
4202860..... 55

4203360 87
4203381 87
4205580 47
4206760 43
4208620 43
4209665 93
4210205 93
4211800 129
4211960 135
4216305 93
4218620 113
4218621 113
4218622 113
4221100 ..... 81, 125, 149
4223561 113
4231620 107
4232042 109
4233001 ..... 119, 121
4233160 109
4233161 109
4233440 ..... 87, 89
4235369 ..... 87, 89
4235740 107
4235966 109
4237525 103
4238042 125
4238925 ..... 81, 83
4238927 ..... 81, 83
4240882 109
4241843 83
4242482 ..... 69, 125
4243002 71
4243003 71
4243004 67
4243005 67
4243006 71
4243008 71
4243009 67
4244442 ..... 123, 125
4244712 125
4245130 ..... 113, 153
4249342 125
4249343 125
443102 101
443106 .. 81, 83, 123, 125
443810 ..... 53, 108
444730 71
445795 99
446134 ..... 81, 83
450077 73
450169 ..... 87, 89
450193 ..... 101, 109
450324 ..... 123, 125, 139
450377 ..... 55, 59
450382 73
450393 73
450400 43
450401 47
450410 ..... 57, 87, 89
450412 ..... 47, 85
450422 91
45045245, 51, 55, 69, 81, 83, 97, 113, 119, 121, ... 123, 125
45045345, 47, 49, 53, 55, ...57, 59, 67, 69, 79, ... 81, 83, 85, 91, ..93, 97, 107, 111, ... 113, 117, 123, ... 125
45045453, 55, 57, 61, 63, ...67, 69, 87, 89, 91, ..93, 99, 103, 115
450455 ..... 47, 49, 69, 75
450457 79
450510 59
450541 ..... 43, 45, 81, 83
450544 125
450739 79
452004 85
452006 ..... 81, 83, 113
45237851, 55, 69, 81, 83, ... 113, 121, 123
452380 ..... 119, 145
452381 139
45238845, 55, 57, 59, 81, ...83, 85, 91, 93, 97, ... 111, 117, 123, ... 125
45238943, 69, 85, 87, 91, 93, 101, 107, 117
452390 ..... 85, 97, 139
452391 55
452392 ..... 53, 83
452393 85
452394 111
452395 ..... 81, 83, 91, 93
452396 139
45239855, 57, 67, 69, 77, ... 81, 83
452399 ..... 67, 115, 117
452401 ..... 61, 63
452402 ..... 69, 91, 93
452403 69
452404 53
452405 ..... 69, 87, 89, 99
452406 69
452408 75
452410 ..... 47, 69
452411 49
452415 67
452424 ..... 57, 59
452692 .... 61, 63, 77, 113
452695 43, 51, 59, 61, 63
452738 97
460030 73
463005 119
471221 73
473142 ..... 43, 79
48540-01 101
5000913 107
5000914 ..... 99, 107
5000919 99
5000920 99
515268 51
517226 129
521144 53
523085 45
524358 153
524633 51
524643 51
548041 108
548079 73
548159 43
548171 53
548175 .. 43, 61, 63, 123, 125
548201 135
548204 ..... 133, 145
548224 73
548325 105
548477 145
548804 108
548827 117
548849 85
548910 ..... 53, 67, 101
548911 ..... 51, 67
548937 133
548952 135
550489 111
550553 111
553020 101
553926 ..... 81, 83
554663 71
558019 149
600992 81
600993 91
601585 99
601592 ..... 81, 83
601595 99
601937 45
603102 105
604174 ..... 61, 63
64237-05 ..... 101, 109
7033 81
7162 ..... 81, 83
800017 101
800021 ..... 111, 115
800024 ..... 103, 105
800026 67
800073 ..... 91, 93
800113 117
800146 81
800177 ..... 67, 81, 83
800198 71
800221 ..... 111, 115
800227 105
800271 ..... 51, 97, 105
800279 117
800294 71
800344 43
800425 145
800446 55
800485 75
800547 .... 47, 91, 93, 97, 101
800558 105
800571 85
800582 ..... 51, 61, 63, 64
800602 71
800695 135
800711 108
800717 129
800737 135
800743 131
800789 65
800861 73
800875 113
800908 ..... 77, 131
800909 ..... 67, 71
800911 135
800927 103
80093043, 47, 49, 53, 57, . 67, 79, 113, 117
800934 . 43, 57, 123, 125
800943 .... 43, 51, 57, 79, 123, ... 125
800944 131
800945 ..... 73, 75
800948 85
800949 85
800973 129
805307 145
805387 131
806703 ..... 55, 59, 103
806714 ..... 51, 57
807332 71
807366 133
807624 145
808060 79
809092 79
809137 ..... 57, 77
809152 55

809174.....85
809180.....67, 71
809231.....65, 111
809254.....135
809265.....121
810152.....57, 59
810435.....57, 133
810437..... 73, 77, 133
810722.....103
811992.....135
811993.....135
812006.....135
812009.....135
812335.....135
812419.....145
812445.....57
813850.....71, 75
814079.....53
814476.....129
815012.....145
815013.....145
815085.....145
815093.....145
815182.....145
816307.....61, 63
816401.....45
816586.....75
817104.....51, 105
817250.....77
817320.....121
817397.....145
817928.....77
818395.....103
819923.....79
820889.....83
820899..... 81, 91, 93
821071.....51
821164.... 61, 64, 97, 103
821893.. 65, 69, 117, 121
822049.....67
822419.....53
822819.....53
823118.....53
823119.....121
823225.....53
823621.....71
825264..... 65, 111, 113
825500.....71
825538.....53
825748..... 147, 149, 151, 153
825866.....147, 149
825877..... 147, 149, 151
825878..... 147, 149, 151
825880.....153
825884.....81, 85
825886..... 57, 147, 151
825889.....151
825894..... 147, 151
825899..... 147, 151
825961..... 147, 149, 151
825973..... 147, 151
825996..... 147, 151
825997..... 147, 149, 151
825998..... 147, 151
825999..... 147, 151
826000..... 147, 151
826005..... 147, 149, 151
826006..... 57, 149
826190..... 147, 151
826191..... 147, 151
826192..... 147, 153
826193..... 149, 153
826254.....149
826558..... 53, 121
826590..... 65, 111
826726..... 147, 151
827182.....55
827486.....117
827821.....51
828049.....51
828057.....53
828231..... 123, 125
828382.....43
828590.....79
828629..... 147, 151
829099.....67
829630..... 147, 149
829631.....151
829787..... 111, 115
829954..... 111, 115
829997..... 69, 111, 113
830140.....103
830366.....51
830784..... 45, 51
830810.....121
830930.....79
831039..... 111, 113
831099.....133
831225..... 123, 125
831405.....75
831586.....103
831846..... 81, 83
831888.....97
831889.....97
831890.....97
832033.....57
832408.....121
832409.....121
832414..... 119, 121
832584.....127
832798.....53
832900..... 121
833056..... 105
833101..... 105
833103..... 105
833104..... 105
833257..... 149, 153
833273..... 59
833345..... 105
833512..... 81, 83
833715..... 83
833953..... 111, 115
834005..... 111, 115
834691..... 111
835101..... 119, 121
835271..... 97, 103, 105
836206..... 119
836420..... 135
836421..... 135
836429..... 135
836431..... 133
836441..... 135
836443..... 129
836536..... 149
836657..... 133
836658..... 133
836662..... 133
836675..... 129
836676..... 129
836677..... 129
836678..... 129
836680..... 129
836681..... 129
836682..... 129
836683..... 129
836684..... 129
836685..... 129
836686..... 129
836687..... 129
836688..... 129
836689..... 129
836690..... 129
836691..... 129
836692..... 129
836693..... 135
836694..... 131
836695..... 131
836841..... 133
836852..... 111, 133
836892..... 147, 151
836959..... 133
837020..... 135
837043..... 55
837270..... 117
837295..... 51
837296..... 147, 151
837298..... 51
837301..... 147, 151
837303..... 43
838154..... 111
838295.8..... 101, 109
838340..... 65
838463..... 149, 153
838539..... 131
838602..... 85
838768..... 153
838769..... 153
838770..... 153
839213..... 53
839917..... 153
839921..... 153
839948..... 129
840222..... 79
840436..... 45
840473..... 97
840508..... 43
840725..... 57, 59
840726..... 57, 59
840754..... 81, 83
840857..... 117
840877..... 119, 121
841167..... 73
841255..... 75, 79
841264..... 51
841336..... 75
841404..... 75
841428..... 43
841429..... 73
841430..... 77, 131
841477G01..... 43
841630..... 73
841637..... 43
841663..... 51
841715..... 43
841737..... 73
841738..... 73
841753..... 43
841799..... 47, 49
841805..... 117
841837..... 127
841838..... 127
841839..... 77
841841..... 77
841842..... 77, 127
841844..... 127
841853..... 111
841885..... 85
841913..... 43
841969..... 111
841982..... 101, 109
842010..... 59
842033..... 75
842103..... 57

842104 77
842360 135
842740 64
842773 ..... 61, 63
842774 ..... 61, 63
842800 121
842870 69
842915 107
842935 ..... 57, 59
842959 149
842961 85
842966 ..... 149, 151
842983 ..... 147, 149, 151
843013 103
843021 57
843158 55
843167 ..... 125, 149
843168 ..... 149, 151
843238 71
843298 ..... 111, 115
843355 53
843356 55
843359 55
843418 77
843537 105
843550 ..... 147, 151
843551 ..... 147, 151
843561 51
843562 51
843563 51
843568 69
843581 51
843598 ..... 147, 151
843607 51
843614 ..... 61, 63
843679 ..... 61, 63
843685 ..... 61, 63
843724 ..... 61, 63
843726 ..... 111, 115
843727 111
843758 53
843759 53
843767 79
843768 79
843778 61
843792 ..... 61, 63
843857 ..... 83, 91, 93
843862 83
843866 105
843876 71
843942 ..... 123, 125
843997 51
844019 121
844051 53
844087 135
844116 51
844130 ..... 51, 97, 105
844148 73
844177 53
844179 53
844184 139
844185 145
844186 139
844187 145
844188 145
844202 59
844223 51
844224 51
844564 119
844565 119
844566 119
844571 119
844582 53
844583 119
844590 119
844598 121
844600 119
844601 117
844611 59
844627 119
844628 119
844647G01 69
844652 119
844729 117
844813 131
844937 119
844951 135
844952 135
844953 135
844956 135
844973 119
844988 49
845034 135
845133 55
845134 55
845185 53
845223 137
845224 83
845231 45
845234 45
845257 145
845327 153
845328 153
845330 153
845345.7 64
845356 131
869154 64
879807 145
882971 69
882993 121
883236 121
884398 149
884513 125
884574 121
885249 119
886001 121
886090 ..... 123, 125
886270 53
887017 119
887187 71
887259 79
887512 75
887994 ..... 91, 93, 95, 119
888549 107
889681 75
889780 133
889870 129
889871 129
889925 133
890000 ..... 123, 125
890930 113
891089 135
891829 ..... 127, 129
892164 64
892228 79
892486 79
892534 91
892601 119
892921 57
892933 59
893067 55
893145.7 69
893199.7 69
893199-G02 69
893233 73
893234 73
893266 73
893322 45
893344 79
893487 67
893488 67
893519 131
893525 69
893539 117
893541 45
893571 79
893581 131
893582 131
893583 127
893585 77
893586 77
893602 67
893613 71
893632 ..... 45, 47, 49
893862 71
894066 85
894159 51
894167 57
894179 61
894201 ..... 111, 115
894266 123
894308 ..... 57, 59
894313 67
894348 81
894434 105
894435 105
894456 57
894471 105
894508 64
894519 135
894573 73
894574 73
894581 69
894582 69
894584 64
894602 ..... 123, 125
894635 75
894638 111
894675G01 117
894691 119
894696 ..... 53, 119
894701 119
894702 119
894825 ..... 71, 127, 131
894826 ..... 71, 127, 131
894886 135
894930 ..... 77, 131
894931 ..... 77, 131
894933 ..... 77, 131
894934 ..... 77, 131
894935 ..... 77, 131
894936 ..... 77, 131
894947 145
894965 145
894989 145
894998.7 ..... 69, 87, 89
895113 57

World Class Quality, Performance And Support

Equipment from Jacobsen is built to exacting standards ensured by ISO 9001 and ISO 14001 registration at all of our manufacturing locations.

A worldwide dealer network and factory trained technicians backed by Genuine Jacobsen Parts provide reliable, high-quality product support.

Qualidade, prestações e assistência de classe mundial

O equipamento de Jacobsen é construído segundo padrões exactos garantidos pela atribuição de ISO 9001 e ISO 14001 a todos os nossos centros de produção.

Rede mundial de distribuidores e técnicos formados na fábrica apoiados por as peças originais Jacobsen para un apoio fiável e de alta qualidade aos nossos produtos.

JACOBSEN
A Textron Company

When Performance Matters.™

CUSHMAN JACOBSEN RANSOMES

Jacobsen, A Textron Company
11108 Quality Drive, Charlotte,
NC 28273, EUA
www.Jacobsen.com
800-848-1636

Ransomes Jacobsen Limited
West Road, Ransomes Europark, Ipswich, IP3 9TT, Inglaterra
Registo de Empresa Inglesa N.º 1070731
www.ransomesjacobsen.com
+44 (0) 1473 270000